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PROPOSED AMENDMENTS

In this issue will be found the minutes of the meeting of the Executive Board, held in Chicago, in December, together with the minutes of two joint meetings of the Executive Board and the Committee on the Revision of the Constitution and By-Laws. Every member of the Association should consider it his duty to read these pages carefully.

It will be recalled that at the meeting in St. Louis, last August, the Committee on Closer Affiliation with State and Provincial Associations made its report, which has already been published in the Journal (page 100, October 1922). This report contained a recommendation that a special committee, consisting of the President of the Association and four other members, be immediately appointed to study the details of the plans submitted, in conjunction with the Executive Board, and that this report (of the special Committee on Closer Affiliation with State and Provincial Associations) should be considered as a written notice to the Association of a proposed revision of the Constitution and By-Laws at the next annual (1923) meeting.

The Committee which was appointed by Ex-President Kinsley (with one change) met in Chicago, in December, to draft proposed changes in the Constitution and By-Laws. This committee

later met with the Executive Board, for the purpose of jointly considering the proposed amendments. Numerous changes and additions were made at the first joint meeting of the two bodies, and the Secretary was instructed to prepare a draft of the proposed amendments, together with those sections of the Constitution and By-laws which it was proposed to amend. The Executive Board and Revision Committee met a second time, to consider further these proposed amendments. These were taken up seriatim and discussed. It was agreed upon the part of those present to have the Secretary prepare a new draft of the proposed amendments and submit a copy to each member of the Executive Board and of the Revision Committee, for approval, before publication in the Journal. This has been done.

In fairness to all, attention is directed to the fact that some of these proposed amendments are looked upon favorably by all the members of both the Executive Board and the Revision Committee, while a number of these amendments have failed to receive the unanimous endorsement of all those present at the joint conferences, and when it is stated that the final draft of the Secretary was approved, it means only that the Secretary correctly interpreted and worded the proposed amendments as expressed by the authors and approved by a majority of those in conference.

Attention has been directed to the question of the legality of acting upon any of these proposed amendments at the coming meeting in Montreal, for the reason that Article 6 of the Constitution and By-Laws provides that, "Any amendments to this Constitution shall be proposed in writing at an annual meeting and referred to the Executive Board for recommendation or otherwise; but such amendments shall not be acted upon until the next following annual meeting, nor shall they be adopted finally except by the votes of at least two-thirds of the members present and voting." Article 20 of the By-Laws provides for the amendment of the By-laws according to the same procedure as provided for amending the Constitution. The By-Laws may be suspended temporarily by a vote of three-fourths majority, but such suspension shall not apply to the section covering amendments. Some of our members lean to the opinion that these proposed amendments cannot be acted upon legally at the next meeting, in Montreal, the only amendments which can be acted upon legally at that time being those submitted by the old committee at the St. Louis meeting.

VETERINARY EDUCATION

Is higher veterinary education on trial? For many years the teachers and research workers on animal diseases in the Land Grant Colleges and certain practitioners saw very clearly the necessity for better veterinary education. They recognized that the important and difficult problems connected with the prevention and treatment of animal diseases could not be solved without a knowledge of the laws that govern them and the practical application of this knowledge. These men understood the close relation of veterinary medicine to animal husbandry and public health. Further, they believed that veterinarians, possessed of educated minds and disciplined in the sciences of veterinary medicine, would be invaluable advisers on all matters pertaining to animal health and disease, They made an earnest effort to raise the standards of veterinary education in this country. They saw that, as in other learned professions, there are difficulties to be overcome, discouraging situations to be faced, and pessismism to be dispelled.

In 1918, the War Department ruled that veterinary schools whose graduates were to be eligible to the Army must have at least high-school graduation for entrance, a professional course of four, full, academic years and adequate facilities for teaching not only the basic sciences but also practical medicine and surgery. The Federal Bureau of Animal Industry took similar action relative to its service. This was in accord with the ideals of the American Veterinary Medical Association.

The first, peace-time matriculation of students after the adoption of these standards, by those schools that did not already possess them, was in 1919, when there was a good registration but, as expected, not equal to pre-war days. In 1920, there was a marked decline in the number of matriculants and in 1921 the reduction was still more pronounced. This year there is no appreciable gain. The drop in the number of students is not more striking, however, than in the number of veterinarians. In 1910, there were 11,552 licensed veterinarians and in 1922, there were 8,692 graduate veterinarians in the United States, according to a recent estimate made by Dean White. There are retiring, for natural causes, about 400 veterinarians annually, and to take their places the schools can supply approximately 125 each year for the next four years.

The veterinary student situation suggests a possible shortage

of veterinarians, The serious effect of such an eventuality has led a few men to believe that the higher requirements are responsible and that the remedy consists in a return to lower standards. Such a course might fill the classrooms, but it would bring disaster to the profession. The responsible veterinarians, and the live-stock owners as well, would not permit such a step backward. They realize that every inch of progress gained must be held tenaciously to avoid a wearisome and retarding repetition of the former struggle for high standards. It is the common experience of professional schools that an advance in requirements is followed by a decrease in the number of students and then an influx of better-prepared men.

There are a number of factors that explain the present situation. The advent of the motor car has eliminated the driving horse; the unfavorable economic conditions that have prevailed, especially in the rural districts, and the extension of the accredited-herd plan for the control of bovine tuberculosis from the *pure-bred* herds, for which it was originally approved, to all cattle, have tended to discourage the practitioners in the profession to such a degree that many of them have left it with the result that in some localities the situation appears to be serious. These conditions which have had a discouraging effect are, from their very nature, with the exception of the automobile, temporary. They are the products of changed economic conditions and the effect of the World War.

The financial situations in the rural districts must improve. The demand for dairy products is increasing and state veterinary medicine will not prevail at the detriment of animal-owners or practitioners. The scientific principles of veterinary medicine, efficiency in service and economy will determine the course that will become permanent. The relation of live stock to the economic prosperity of the country is the same: the total number of animals is as large; the sporadic diseases and injuries are as numerous; and the need for veterinary service is as urgent today as in pre-war time. The facilities for service, however, have made it possible for a practitioner to meet the demands of a greater number of clients. The reduced number of students, therefore, may be a blessing, for in the general shifting of things a smaller number of better prepared veterinarians may be all that the demand requires. The free tuberculin-testing that reacts against the practitioner today will, according to the plan, give him increased work in the near future.

No, higher veterinary education is not on trial. It is the educated and trained veterinarians who are standing firm on the platform of professional ethics and efficient service who are holding the ideals of the profession against the onslaught of theories and actions that accompany post-bellum adjustments, and that would bring disaster to the animal husbandry of the country if it were not for their stabilizing influence. Veterinary education presents many problems in the development of adequate professional knowledge and a system of imparting it that will inspire young men with the ideals of true service. These questions are being considered and will be solved eventually, by those who have a vision of the "fitness of things" and the veterinary needs of the great animal husbandry of the land.

V. A. M.

WHAT IS CANINE DISTEMPER?

Veterinarians are experiencing a great deal of difficulty at the present time in the treatment of a diseases (or disease) of dogs called canine distemper. There seems to be almost universal dissatisfaction with the results being obtained with biological products in the treatment of this disease. We say "disease" rather guardedly, for the best opinions lean to the belief that veterinarians are facing more than one disease prevalent among dogs at the present time. Some veterinarians do not hesitate to say that there are at least two distemper-like diseases prevalent among dogs. Other practitioners, not quite so conservative, go further and say that there are three or possibly four of these diseases, which, for want of a more careful diagnosis, are called distemper.

It is now something like fifteen years since Ferry isolated Bacillus bronchisepticus. This work was subsequently confirmed, in this country by the findings of Torrey, and abroad by the researches of McGowan. Since that time Bacillus bronchisepticus has been accepted as the causative agent of canine distemper in this country, and all present biological products are derived from this organism. The filterable virus of Carre is still believed by some to be the etiological factor in canine distemper, particularly abroad. It must be said that Bacillus bronchisepticus is an organism which is undoubtedly responsible for an infectious respiratory disease of dogs and of other small

animals, having been isolated from a number of different species by various investigators at different times. This fact is sometimes held against *Bacillus bronchisepticus* being the specific cause of canine distemper.

Many dog owners and veterinarians feel that more research work should be done on this disease. It is true that very few laboratories have at their disposal any funds which may properly be utilized for the investigation of dog diseases. The investigations of Ferry were conducted in a commercial laboratory. while those of Torrev were conducted in a state university, the work being made possible by funds raised among wealthy dog fanciers. With so many of our veterinarians in the cities devoting their time almost exclusively to small animal practice, and with the very large number of persons interested in dogs, financially and otherwise, it would appear that some concerted effort might result in raising a fund which could be used by some trained animal pathologist in a well equipped laboratory, to conduct further researches into the diseases of the dog, now prevalent in this country. We know of few projects which are more in need of being carried on, and it is safe to say that there is nothing which would receive more hearty approval from practicing veterinarians than an investigation of this kind.

PLAN TO GO TO MONTREAL

Reports from Montreal would indicate that the members of the Committee on Local Arrangements are hard at work perfecting the details of the program for entertaining the Association next August. The tentative dates that have been selected for the meeting are: August 27, 28, 29, 30 and 31, 1923. We had hoped to be able to announce in this issue that these dates had been officially approved, but this has not been done at the time this editorial is being written.

A recent communication from Dr. J. H. Villeneuve, the very active Secretary of the Local Committee, called attention to the fact that our Convention is being held this year in a city where the Volstead Act is strictly "taboo". The Committee has already decided to have a banquet this year, a feature which has been missed at recent conventions, and that the banquet will be of the real, old-fashioned kind, "with its accompanying source of enjoyment." Dr Villeneuve states that the local

veterinarians will not be satisfied with anything less than a record attendance.

We might add further that the railroads will offer very attractive rates for the trip to Montreal. We hope to have the certificate plan in effect, but even though this may not be possible, the summer excursion rates offered by the various railroads will be very attractive. Our Association will be 60 years old this year, and we should not allow the event to pass without celebrating it in a fitting way. Plan to go to Montreal:

THE WINTER MEETINGS

In this number of the Journal will be found very good accounts of quite a number of the winter meetings of the various state associations and short courses held throughout the country. In almost every case the reports indicate that the attendance at these meetings was unusually good, Iowa leading with some four hundred members in attendance at Des Moines.

The fact is worth knowing that quite a number of these associations have decided to have, or are considering the advisability of having only one meeting a year. It has been found increasingly difficult during recent years to have two good meetings a year. Secretaries have found it difficult to arrange attractive programs and veterinarians have not found it possible to attend two meetings a year in many cases. We believe that it is better to have one good meeting rather than two poor meetings.

In this connection it is to be noted that the number of local and county veterinary organizations is apparently on the increase, and these local meetings in different parts of the state help to supplement the annual meeting of the State Association and render semi-annual meetings unnecessary to quite an extent. With most of the State associations holding one meeting a year, and this during the winter months, it is to be hoped that the attendance at the meetings of our National Association will be larger in the future. We heartily endorse the plan of one good meeting a year for our State associations.

THE ARMY VETERINARY CORPS

All of the older members are familiar with the strenuous efforts made by the A.V.M.A. to obtain an efficiently organized veterinary corps for the Army of the United States. The necessary legislation has been obtained and we now have a small but well organized veterinary corps.

Congress has reduced the Army of the United States to a minimum so that there are now only 126 veterinary officers in the regular army. To provide for emergencies, an officers' reserve corps has been provided by Congress and organized by the Surgeon-General of the Army. Officers are commissioned in the Army of the United States and are assigned to duty where their abilities and training will be most useful in time of national emergency. Under this plan, the difficulties experienced by the veterinary Corps at the outbreak of the World War will be avoided.

At a meeting of the army veterinarians, both active and reserve, of the Sixth Corps Area, Major Christy, of the Cavalry, stated that there was great need for the veterinary reserve officers as there was a smaller percentage of veterinary reserve officers than in any other branch of the service.

Does this mean that veterinarians are less patriotic than other professions or than the average citizen? I do not think so, but it is up to our profession to make good as patriotic citizens and as veterinarians. It is a duty we owe to our country and to our profession. The A.V.M.A. has played an important part in securing an efficient army veterinary organization and now that our services are needed in this organization, let us "deliver the goods".

If you have not applied for a commission in the Veterinary Officers Reserve Corps, write to Col. J. A. McKinnon, Director Veterinary Corps, Surgeon-General's Office, Washington, D.C., and secure an application and full information — and then JOIN.

N. S. M.

THE RIGHT WAY

Dr. Laurence E. Green has sent us a card announcing his admission into partnership in the Monroe Jarrett Manufacturing Company, of Trumbauersville, Pa. He writes, "As you see by the enclosed, I have resigned from the veterinary profession, but I hope to keep in touch with the boys through your Journal. Kindly see that I receive the Journal regularly at my new address."

Dr. Green graduated from the University of Pennsylvania, Class of 1915.

FACTS RELATING TO INFECTIOUS ABORTION IN CATTLE AND SWINE; AND THEIR PRACTICAL APPLICATION¹

By J. W. CONNAWAY

University of Missouri, Columbia, Missouri

Scientific research is essential in developing unknown facts in the field of medicine; and critical discussion is often necessary to bring out the proper interpretation or correlation of the facts. But in the opinion of members who are more interested in the end-results of research, and their practical application, too much time has frequently been given in our programs to the *details* of technical research, and especially to acrid, disputatious discussions concerning abortion disease, which at the time yielded too little in results of immediate practical value to the busy practitioners, or to live stock sanitary officers, many of whom had come hundreds of miles for definite usable information, but too often returned home in a confused and discontented frame of mind regarding this question.

I am happy, therefore, to have this opportunity to attempt to show that research men are really practical men, and appreciative of the practical needs of their colleagues who deal daily with the more practical phases of the problem. A dozen others, whom it would be easy to name, could render this service as well or better than I; but this opportunity has come to me, and I hope I will not fail in presenting the essentials of the subject in a clear and acceptable manner.

In the control of any disease it is evident that the more complete our knowledge is of the nature of the disease, its cause, the modes of transmission, and the conditions necessary or favorable for its propagation, the more easily can effective measures of control be devised and applied. Infectious abortion in farm animals is no exception to the rule. However, there is no justification for withholding the practical relief that is now possible, even though certain phases of the problem are still in the experimental stage, and the last chapter relating to research has not been written.

It does not matter in what stage of progress our science at any time may be, the demands of the live stock breeders are

¹Read at the fifty-ninth annual meeting of the American Veterinary Medical Association, St. Louis, Mo., September 1, 1922.

that we use to the best of our ability, and in a safe manner, the essential facts that are available, be they few or many. And in my opinion, we have at the present time sufficient well established knowledge concerning the nature of abortion, particularly in cattle, to control this disease successfully. A review, therefore, of the facts which have a practical bearing, with suggestions as to the application of these facts, I believe will be of particular value to the veterinary practitioners, and to the live stock sanitary officers, at this time.

What facts of practical bearing have been established? The list which I shall give, I am confident will be accepted by the great majority of veterinarians and investigators, as having been proven, or at least as being supported by a sufficient weight of evidence to justify their tentative acceptance and use. And as this paper has been written for purely practical purposes, the list is presented as a statement of useful facts, without argument, and without burdening the paper, and your patience, with a confusing array of bibliographic evidence.

IMPORTANT FACTS CONCERNING INFECTIOUS ABORTION IN CATTLE AND SWINE

1. The first important fact is that there actually exists a truly infectious disease, specific in nature, which causes the majority of abortions in cattle, and probably also in swine.

2. This infection is transmissible, under certain conditions, directly from an infected female to a healthy female, when kept

in close association.

- 3. The infection is transmitted from the infected female to healthy animals through the uterine discharges, namely, the aborted fetus, the afterbirth, the subsequent lochial discharge; also by the milk.
- 4. An infected female which is sufficiently resistant to carry viable young to full term also discharges abortion infection at the time of parturition, on the coat of the live calf, in the afterbirth, and later in the lochial flow, and in the milk.
- 5. The infection remains alive outside the body of the infected animal for a considerable time, under favorable conditions; and the soiled tail and hair of the rump of the infected female, and the bedding, contaminated by the uterine discharges, may transmit the infection to healthy exposed animals.
- 6. The period of discharge of infection from the uterus is comparatively short—from three to six or eight weeks.

7. The disease is contracted under natural conditions by ingestion of infected materials.

8. Transmission by copulation is also possible, but probably not of frequent occurrence.

9. In the majority of cases, a mature infected female remains a permanent carrier of the Bang abortion infection during life, and is liable to abort at any pregnancy; and is a potential spreader of the disease at each parturition, and for a period thereafter.

10. Bulls occasionally become infected systemically, and the generative glands and passages may discharge abortion germs and infect females through copulation, or by the latter licking the soiled sheath of the bull, or the vulva of a cow which has been recently served by an infected bull.

11. The milk of abortion-infected cows is not liable to transmit infection to mature cattle—except from gross carelessness in handling the milk. The probabilities are not great that many sexually mature cows will have an opportunity to ingest sufficient infected milk to cause harm.

12. The danger of transmitting abortion infection from the milk of an infected cow through the fecal discharges of calves nursing infected mothers, has not been determined experimentally (Field observations of a few cases have shown no bad results).

13. Occasionally the young of an abortion-infected mother becomes permanently infected with the Bang abortion organism, in utero, or from the milk after parturition; as a rule, however, the young animal overcomes the infection before reaching sexual maturity and may be reared free from the Bang abortion disease.

14. Infected, non-pregnant cows, free from uterine discharge, do not transmit the abortion disease to healthy pregnant or non-pregnant cows.

15. Infected, pregnant cows do not transmit the Bang abortion infection to pregnant, non-infected cows before the period of parturition (or abortion).

16. Some infected cows develop a considerable degree of immunity or tolerance to the Bang abortion infection, and do not abort more than once or twice; while others may abort repeatedly.

17. The artificial inoculation of the living *B. abortus* germs in sexually mature females causes a permanent infection identical with the naturally acquired disease. The effects upon the animal are the same.

- 18. Healthy heifers and cows artificially infected before breeding are not so liable to abort as when infection occurs after breeding. Such inoculation, however, prior to breeding, causes abortion in some of the inoculated animals after they are bred; and any case so treated and infected permanently is liable to abort during a future pregnancy. And in all cases they are potential spreaders of abortion infection at time of parturition.
- 19. The *Bacillus abortus* (Bang) is the specific cause of the majority of cases of abortion in cattle and probably also in swine.
- 20. The serological tests—agglutination and complement fixation—are reliable, practical, diagnostic tests for detecting infected animals in a herd. The abortion test properly used is as accurate for its purpose as the tuberculin test is for detecting tuberculous animals.
- 21. Other organisms than the Bang bacillus occasionally cause cows to abort; as for instance, the tubercle bacillus may produce lesions in the uterus that result in the death and expulsion of the fetus; but this organism and the pus-formers which occasionally gain access to the uterus, do not have the selective, invasive properties that are possessed by the *B. abortus* (Bang), and which entitle the latter to hold the chief place as an abortifacient organism in cattle and swine.

Spirilla or vibrios have been found associated with abortion in cattle; but thus far there does not appear to be any indication that these organisms will prove a serious menace to cattle and swine breeding, as a specific or primary contagium transmissible from herd to herd through infected animals.

- 22. Sterility is at times a sequel of an abortion due to the Bang bacillus infection; but this sterility is probably the result, in most instances, of the post-invasion of the open uterus with pus-formers, and other wound infections, following a retained and neglected afterbirth.
- 23. Infectious abortion in swine, if not identical with that of cattle, is a closely related infection with strong evidence of intercommunicability.

PRACTICAL MEASURES OF PREVENTION AND CONTROL

The facts summarized in the foregoing paragraphs supply the basis for measures of control which have been put in practice with success on a number of stock farms, and which it is believed can be adapted to any condition that may arise. An outline of these measures is given herewith.

- 1. If an abortion occurs in the herd, isolate the animal promptly. Do not take the risk that the abortion was due to an accidental injury or shock, or to some non-specific infection.
- 2. Destroy the aborted fetus and afterbirth; burn, or bury them deeply, adding quick-lime before covering with earth.
- 3. Disinfect the stall and litter where the abortion occurred. Use compound cresol solution (U.S.P.), or other good disinfectant. If the abortion occurred in the open field, or cattle-yard, cover the spot with freshly slaked lime and sprinkle with a disinfectant which has a disagreeable odor, to prevent healthy cattle from licking up infected material.
- 4. Give attention to the quarantined cow. If the afterbirth has been retained, give proper treatment to prevent complications leading to chronic metritis, and other conditions that may result in temporary or permanent sterility. Day by day disinfect thoroughly the uterine discharges and contaminated bedding. Do not permit these to come in contact with healthy mature cattle and swine; and especially in contact with healthy pregnant females.
- 5. Keep the aborting cow in quarantine until uterine discharges have ceased. Before releasing from quarantine, spray the rump, tail and vulva with a disinfectant which has a sufficiently disagreeable odor to prevent healthy cows from licking the soiled parts.
- 6. While the cow is in quarantine, draw a blood sample and send it to the State Laboratory, or other properly equipped laboratory, where the diagnostic tests for abortion disease are made.
- (a) If the first sample, drawn soon after the cow aborted, proves negative to the test, draw another sample in ten or fifteen days and have a retest made. (It occasionally happens that the blood-serum of a cow that has recently aborted does not contain sufficient reacting antibodies—in a free state—to give the specific reaction. If convenient, also send a sample of colostrum. This fluid contains the antibodies even when they are apparently absent from the blood of an infected cow or sow. The blood as a rule reacts strongly, both at time of parturition and at later periods. If therefore a negative reaction is reported on samples drawn on the fifteenth or thirtieth day, the proba-

bilities are that the cow is not infected with the Bang abortion disease.)

(b) If the blood sample, however, shows a positive reaction to the abortion test, proceed to test all the sexually mature breeding cows in the herd, as well as the mature bulls. There may be other infected animals in the herd that are not suspected, but which are carriers and distributors of abortion infection at an apparently normal calving; or, in the case of an infected bull with a diseased genital tract, a more continuous discharge of infection may be occurring.

7. After the test of the herd has been made:—(a) Mark or identify in some plain manner all the reacting individuals. (b) If convenient, separate all the reactors from the non-reactors, in different pastures and barns, to facilitate proper handling and observation, as well as to lessen the risk of spreading infection to the healthy animals. (c) Make a careful appraisement of the worth of the reactors as breeding animals, or as milkand butter-producers. (d) Sell to the butcher all reactors that are not of special merit; such as old cows that have about reached the end of their usefulness, animals of defective conformation, poor milkers, unthrifty "hard-keepers," uncertain breeders, cows with bad udders, cows affected with persistent leucorrhoea, metritis or other genital ailment that has not yielded to expert treatment; and other reacting "boarders" in the herd, the disposal of which would lessen the leaks in the business.

The greater the number of reactors of the class mentioned that are sent promptly to the butcher, the better it will be for the owner of the herd—and for the industry. It will lessen the number of potential distributors of abortion infection to be kept under surveillance, and will hasten the day when the herd will be free from the disease. The ultimate elimination of all reactors is the end to be striven for.

8. Do not sacrifice abortion-infected animals of exceptional merit. They can be handled without great danger of spreading the disease. Some of them will abort more than once, and in widely separated pregnancies; and practically all will remain potential distributors of the infection; but many of them will become quite regular breeders, and their progeny, with but few exceptions, can be reared free from abortion disease. A careful watch, however, must be kept on all abortion infected pregnant cows, and if one should show signs of premature calving, she should be removed promptly from the herd into the quarantine

quarters, and handled as described in a preceding paragraph until safe to return to the herd.

All abortion reactors retained in the herd should be regarded as dangerous distributors of the infection at calving time; although the calving may appear to be in every way normal, and the calf fully developed and vigorous. Virulent infection has been demonstrated in the afterbirth of abortion reactors in such cases. (The same is true of abortion-infected sows which farrow living litters of pigs.)

To avoid danger from this source, separate the abortion reactor from the herd, several days before she is due to calve. Place the cow if possible in a calving-stable so constructed that it can be kept in proper sanitary condition. Isolated paddocks may be used if the drainage can be controlled.

When the cow has calved, dispose of the afterbirth and contaminated bedding in the manner already described. The vaginal tract and uterus should receive such treatment by the attending veterinarian as the circumstances may require. Disinfect the tail, and soiled hind-quarters, as often as seems necessary while the cow is in quarantine. Spray the infected stable litter daily with a disinfectant before cleaning the stall, so that infection may not be carried on the feet of the attendant to the stalls of susceptible cattle; and to prevent cattle from eating the contaminated bedding.

Disinfect the coat of the calf before transfer to quarters where the young animal may come in contact with mature susceptible cattle.

Keep the cow isolated from mature, non-infected cattle until free from infectious discharges—three to six or eight weeks. And when released from quarantine, sponge or spray the tail, vulva, and hind-quarters with an ill-smelling disinfectant to prevent other cattle from licking the parts mentioned.

The use of the spray on the hind-quarters is especially applicable in the handling of beef-bred cows which are reactors, and which have recently aborted or calved. The period of detention in quarantine may be lessened, if the infected cows are sprayed frequently after release from quarantine until the danger period is past.

In the case of milk cows, the use of an ill-smelling disinfectant applied as a spray is objectionable, on account of its contact with the teats and udder and the danger of tainting the milk; but the application can be made more carefully by the use of a sponge, and the objections mentioned can thus be overcome.

9. The handling of the calves from abortion reactors is not a matter of much concern, prior to sexual maturity, so far as the transmission and the perpetuation of B. abortus infection in the herd are concerned. And no special changes in herd management are necessary during this period so far as the young calves are concerned. For, although the young of abortion-infected mothers are exposed to the danger of infection in utero, and subsequently from ingesting infected milk (for a period of several months in the case of beef-bred calves), the infection is nevertheless, in the great majority of cases, effectually overcome by the young animal before sexual maturity is reached.

The young heifer, on reaching breeding age should, however, be carefully protected from "open cases" of abortion carriers; namely, cows that have recently aborted, and abortion-reactors that have recently calved.

Both heifers and gilts when sexually mature are susceptible to permanent infection before breeding, as well as after becoming pregnant, although the susceptibility is probably greater during the pregnant state. Proper protection therefore should be given both before and after breeding to all sexually mature animals.

10. While the bull is not, as a rule, an important factor in the spread of abortion infection, it is preferable not to use an abortion-reactor; and no reacting bull should be allowed to run free with the herd.

If from necessity, or other valid reasons, a reacting bull is used, a special breeding pen should be provided to be used for this purpose only. The sheath of the bull should be flushed out a half-hour or more before service, and a canvas-bag muzzle should be placed over the mouth of the cow while in contact with the bull. Moreover, after service, the coat of the cow, and especially the rump, tail and vulva, should be sprayed or sponged with a coal-tar disinfectant. The cow should then be isolated a few days and sprayed again with the disinfectant before she is returned to the herd.

11. In the management of a herd of cattle or swine, a rigid rule should be adopted and adhered to by every breeder—requiring the temporary isolation of all sexually mature breed-

ing animals that are purchased; and the application of the serological abortion test before admission to the home herd. This also applies to nurse-cows that may be needed in show herds; and to cows and sows sent in from other herds to be bred. Clean herds of pure-bred cattle, and of swine, have become infected and suffered severe loss from these sources of infection.

12. A systematic testing and retesting of an abortion-infected herd should be carried out until the herd is free from the disease. All the young heifers should be tested after reaching breeding age, and especially after they have been bred a few weeks. The entire herd should be tested two or three times yearly, or oftener as circumstances may require. The drawing of the blood samples is such a simple matter, and the disturbance to the animal so slight, that these tests should not be neglected in valuable pure-bred herds.

13. The health certificate for inter-state shipment of sexually mature breeding cattle and swine should include an affidavit that the abortion test has been applied, and that the animal has been found negative to the test.

14. As vaccination against cattle and swine abortion with live *B. abortus* vaccine increases the number of permanent carriers and potential spreaders of abortion infection, its general and unofficial use should be prohibited. Its use should at least be surrounded by the strictest measures of governmental control.

15. In conclusion, I would emphasize the fact that the control of the Bang abortion disease is a comparatively simple matter; depending upon the proper application of a few essential measures; namely, the use of the diagnostic tests, with history of the cases, for the detection of the infection carriers, and the handling of these potential distributors of abortion infection in a manner to prevent sexually mature animals from ingesting the infectious discharges.

It is evident however that success cannot be attained in the control of this disease, unless the special though simple details of herd- and stable-management, which have been mentioned, are carried out in an intelligent and diligent manner. And while the burden of this work must be borne by the owners and the herdsmen who are in immediate charge, a special obligation rests upon the veterinary practitioners, and the veterinary sanitary officers, in the course of their professional work, to give the men in immediate charge of a herd practical instructions in the details of what to do, how to do it, and when to do it.

DISCUSSION

CHAIRMAN REED: Now, this interesting paper on one of the most important subjects we have to consider in the matter of veterinary medicine is open for discussion, and I hope we may have some very good discussion on it. Dr. Connaway, I know, will be glad to answer any questions that any of you

have to ask in regard to his work.

Dr. Connaway: Before the paper is discussed, I wish to say that I hope the last two words just spoken by Dr. Reed will not mislead anyone into thinking that this paper is wholly my work; since the fact is that I have not hesitated to appropriate everything that was good from every available source, and endeavored to put it into practical form for the use of the members of the Section on Sanitary Science and Police.

Dr. W. E. COTTON (Washington, D. C.): Dr. Connaway has ably discussed this subject giving the known facts and their application. There are one or two points that he touched on which I would like to mention, and give a little of our experience at the Bethesda Experiment Station that bears on them.

Dr. Connaway stated that he believed there is not much danger of transmitting this disease from one cow to another through the milk. This is generally true, I believe, but there are exceptional cases where the milk may be dangerous to other cattle. It is the practice in some pure-bred herds to allow the calves to take milk until they are a year or a year and one-half old. When this is done, it may be that some of the calves will become infected, if the milk contains living abortion bacilli. We know that it is safe to allow calves to ingest milk infected with abortion bacilli for the first three or four months of their lives, but whether it is safe to continue this practice until they are a year or a year and one-half old, is a question that, so far as I know, has not been answered.

Dr. Connaway also spoke of the possibility of abortion bacilli passing out with the feces of calves. We did a little work on this problem some years ago at the Experiment Station. We fed calves cultures of B. abortus and made guinea-pig inoculations from the feces. Our results were negative, but as so many of the guinea-pigs died before lesions, due to abortion bacilli could have

developed, the experiment was not conclusive.

To emphasize what Dr. Connaway has said about the infection of fields and pastures through abortions occurring in them, and the need of disposing of all infected material, I want to give the results of one of our experiments made to determine the length of time abortion bacilli remain alive in fetal and placental tissues when exposed to the weather. These tissues were exposed on the ground, under a wire screen, to prevent them from being carried away by animals, and it was found that during the colder months, the abortion bacilli remained alive in them for considerably more than 100 days. In the summer, they died in a much shorter time.

As to "carriers" that have never aborted, they are more dangerous than

those that have aborted, because they are unsuspected. As to the danger through copulation, we, at the Bethesda Experiment Station, have not been able to transmit abortion disease through copulation, though we have tried repeatedly. We do recognize the danger, through the seminal fluid that is spilled, of contaminating food, but through direct copulation we have been

unable to transmit the disease.

Of course, with hogs, the danger from food contamination is greater, because of the larger quantity of the seminal fluid discharged, and the habit of the

hogs of eating from the ground.

As to the use of abortion vaccine, I would not go quite so far in my opposition as does Dr. Connaway, because, if you inject real, live, abortion bacilli into cattle at the proper time, something in the way of preventing abortions in infected herds will be accomplished. Unfortunately, abortion vaccines that are on the market are frequently dead or contaminated. The abortion

bacillus sometimes dies very quickly. We have had it die within 48 hours when suspended in physiological salt solution; and then again had it live for months under the same conditions, as nearly as we could determine them. Vaccination against abortion disease has not yet passed the experimental stage. At best, it can be only an expedient to reduce the number of abortions in infected herds. It cannot be used as an agent for eradicating the disease.

Dr. J. A. Kiernan (Washington, D. C.): Will you discuss the point of

intercommunicability from cattle to hogs?

Dr. Connaway: Evidence in the way of reports from stockmen indicate that this has occurred; but we have no well checked proof that it occurs under natural conditions. Experimentally, however, we have produced abortion in pregnant sows by infecting them with the bovine strains of B. abortus.

DR. COTTON: At the Bethesda Experiment Station, we fed a herd of twentyfive cows a small amount of culture of abortion bacilli isolated from swine, daily for about a month. There had been no abortion in this herd for a long time; it had acquired a strong herd-immunity. Inside of three months after feeding this culture three abortions occurred in the herd. We have not yet proved that these were caused by the abortion bacilli isolated from swine that had been fed, but the "lighting up" of abortion disease, where it had been so long quiescent following the feeding, indicates that there may have been some connection between the ingestion of the bacilli and the abortions.

Dr. E. B. Haskin (Indianapolis, Indiana): I would like to ask about the disease as it relates to swine. For instance, we will say that we have one hundred brood sows; sixty-five of them abort two or three weeks prior to farrowing time. What advice would you give the owner in such a condition,

and what might we expect in the event that these sows were rebred?

These are all pure-bred sows? DR. CONNAWAY:

Dr. Haskins: About fifty per cent of them are.
Dr. Connaway: I would put in the pork-barrel all of those grade sows, to lessen the amount of infection to be dealt with, and to get closer to the purebred business; then I would select from the pure-bred bunch the best of the non-reactors as the foundation of a new herd. If, however, there were among the reactors or aborters, one or more of exceptional merit, I would isolate these from the others and breed them again, for many of the sows that have aborted will farrow a good litter of pigs the next time, and some of them may never abort again. But some may have only two or three live pigs, with maybe two or three dead pigs with hair on them, and perhaps a hairless mummy

One of the drawbacks of this disease in swine is that, even if a complete abortion is not produced, a part of the litter may come dead; and in other sows only small litters are produced, and such sows are not profitable to the swine breeder. Moreover, some sows become permanently sterile after

abortion.

In contrast with the conditions mentioned, we have in our experimental herd one infected sow that, so far as we know, has never aborted and is very prolific, having large and thrifty litters at each farrowing. We know this sow to be infected, since she is a reactor to the test, and B. abortus cultures were isolated from an afterbirth. Moreover, the young pigs were reactors after sucking the mother. We regard this sow as a probable spreader of abortion infection to susceptible animals, at her farrowing periods.

There is another thing that should be mentioned; we found that the younger stock, which as a rule lose the abortion reaction before sexual maturity, became reactors again if left with the older sows until they had attained sexual maturity; and this occurred in quite a number of cases in unbred gilts.

In a group of young boars, litter-mates of the gilts, which were separated from the mothers at weaning, the reaction remained negative until they were infected experimentally, or were exposed naturally, after they were sexually mature.

Chairman Reed: Gentlemen, Dr. Connaway made the remark that he had not done much work, but from his discussion I believe he hasn't been asleep all the time, and probably has some other things he could tell us if we would only ask him.

Dr. B. J. Killham (Lansing, Mich.): I have admired Dr. Connaway's

paper principally because of its practical nature, and there has occurred to me a question that is also confronting sanitary officials at this time and will

become more difficult to answer as time goes on.

Dr. Connaway mentioned in his paper that for interstate shipment, cattle should be subjected to the "abortion test," and an affidavit furnished to accompany the shipment, indicating that the animals were free from the abortion disease. I would like to ask his opinion as to the practicability of requiring such at the present time for interstate and other movements of cattle.

Dr. Connaway: It is certainly very desirable, and I think more practicable than the tuberculin test. There is less disturbance to the herd in making the test, the task of the veterinary inspector is easier and requires less time. His duty would be to draw a small blood sample from each animal to be tested, identify the animals and samples officially and send the samples to the state The report upon the abortion test can be secured quite as soon laboratory.

as that of the tuberculin test.

Some herds in our state, and no doubt in many states, have been badly infected through the purchase of one or two infected animals from other states. And, as a great many breeders regard abortion disease as an economic menace fully as great as tuberculosis, I am convinced that most of them are favorable to an official test for interstate traffic. Those who buy undoubtedly are.

Chairman Reed: Is there any further discussion? Have you anything

further, Dr. Connaway?

Dr. Connaway: Further discussion would perhaps only raise questions I

can't answer.

CHAIRMAN REED: The subject is of such tremendous economic importance that we want to get all the information possible as live stock sanitary officials. When Dr. Connaway mentioned requiring a test for every breeding animal that was shipped, at least interstate, I felt what an ideal condition that would be if we could at this time demand such a test. It is not perhaps such a difficult matter in itself, but I fear it would be rather a difficult one to administer. Personally I would be glad to see something of that sort done, especially if it is going to lessen the amount of disease we have to combat.

Pardon the Chair for taking a little part in the discussion, but it is a subject

of tremendous interest to me, as I have done some work in the field along these

PRUDENCE

In Georgia they tell of a country minister, the Reverend Tyler Bliss, who was driving a spirited horse through a village, when he overtook a local physician, who happened to be on foot, and invited him in for a lift.

Ten minutes later the horse bolted, tipped over the carriage and spilled both men. The doctor rose to his feet and felt himself over to see whether he was injured. Then he turned angrily toward the clergyman.

"See here," he demanded. "What do you mean by inviting me to ride behind an animal like that?"

"Well," replied the minister mildly, "it was lucky that this time there were no bones broken. But I always like to have a doctor with me when I drive that horse."

THE VALUE OF ANIMAL EXPERIMENTATION TO VETERINARY MEDICINE*

JOHN G. HARDENBERGH, V. M. D.

Division of Experimental Surgery and Pathology, Mayo Foundation, Rochester, Minnesota.

The veterinary profession has advanced and prospered in direct ratio to the advancement and prosperity which has attended the development of the live stock industry. Conversely, the live stock industry always has been and always will be dependent for success on the ability of the veterinary profession to solve the problems of disease which have arisen and will continue to arise so long as domestic animals play a part in the scheme of existence. These statements are so obvious as to appear superfluous, yet they form the basis for consideration of still another factor, one which more than any other, has placed veterinary medicine in the position of "god-father" to the live stock industry. For it is believed that animal experimentation has enabled veterinary science to perform its greatest service to man and animals through the control and eradication of the infectious diseases to which our domestic animals are subject.

The history of greatest advancement in the control of disease is, for the most part, the history of experimental investigation. The day which sees the restrictions or prohibition of animal experimentation, as conducted by competent persons, will also mark the initial decadence of the medical professions in their chosen fields of service to man and animals. Yet it is safe to say that very few of those not actively engaged in investigational work as it applies to disease ever give much thought to animal experimentation in its various phases. Nine out of ten veterinarians today might say on casual consideration that it has little or no bearing on their work. However, a careful review of the subject reveals the fact that a surprisingly large part of our professional knowledge has resulted from such investigation, and that an equally large share of the veterinarian's equipment for the treatment of disease is dependent on the same factor.

The main attribute of success in any profession is a mastery of the fundamentals on which further knowledge must be based.

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Anatomy, physiology, pathology and bacteriology, pharmacology and therapeutics are the essentials of the education of the veterinarian, without which the theory and practice of veterinary medicine and surgery would be nothing more than quackery. With the possible exception of anatomy, not one of these essentials would have emerged from the realms of guesswork without the employment of living animals in experimental work, and even in anatomy very painstaking research with living subjects has been necessary in order to determine many of the finer points of anatomic structure and relationship. As regards physiology, we still might believe, as did Aristotle, that "the heart is the seat of consciousness and will, and the brain an organ to cool the heart", had not Harvey and other pioneer physiologists pointed the way to certain knowledge by observations on animals. Pathology and bacteriology are so closely related to animal experimentation that any attempt to separate them would be foolhardy.

In pharmacology and therapeutics the relationship is just as close. Few drugs of any value have come down to us from the times before animal research was known and the actions of these were, as a general rule, only slightly understood. In the sixty-five years which have passed since the establishment of the first pharmacological laboratory more progress has been made in our knowledge of drugs than in all the centuries preceding.

Such statements are interesting as matters of history, but the average person is concerned chiefly with factors which have a more direct bearing on his everyday activities. In order to obtain accurate data concerning the effects of animal experimentation on the routine practice of the veterinarian today, a questionnaire was sent to the leading pharmaceutical and biologic houses of the country. Information was requested as to the extent to which the preparation or standardization of their products depended on animal experimentation. Commercial houses were consulted in this matter rather than those engaged in research because it was desired to obtain data concerning animal experimentation in its practical application to veterinary medicine rather than to dwell on the purely scientific phases of the work. Analysis of the answers received reveals some interesting facts. It is found that no less than fourteen species of animals are required either in the preparation or standardization of products commonly employed in veterinary practice.

Horses are employed for the production of tetanus antitoxin, anti-anthrax serum, anti-blackleg serum, antistreptococcic serum, white scours serum, and antihemorrhagic septicemia serum.

Cattle, including calves, are used in the production of blackleg vaccine, aggressin and for anti-anthrax serum.

Sheep and goats are used as test animals for anthrax vaccine.

Swine furnish anti-hog cholera serum and hog cholera virus and are also used to test the potency of these products.

Dogs are essential in standardizing cannabis indica, epinephrin and ergot; they are also employed to prove the efficacy of antirabic vaccine.

Rabbits are the source of antirabic vaccine and are invaluable in testing various serums for potency and maintaining the virulence of bacterial cultures used in the preparation of vaccines and bacterins.

Guinea-pigs are the animals officially designated to test the potency of tetanus antitoxin and are universally employed to test the safety of various serums and bacterins. They are also used in the standardization of aconite.

White mice are commonly employed to maintain the virulence of bacterial cultures, roosters are employed to standardize ergot, frogs to standardize digitalis, and so on through the list.

In the production of pharmaceuticals, therefore, a considerable number, about 10 per cent, of drugs commonly employed in veterinary practice, are standardized on animals of various species. Among these drugs may be mentioned digitalis, squill, strophanthin, ergot, aconite, cannabis indica, epinephrin, pituitary solutions. By the use of animals in this work, the manufacturers are able to place in the hands of the practitioner products known to be active, the dose of which is accurately determined, and products so well standardized that practically no question arises as to the effects they will produce under given conditions. Few veterinarians would be willing to eliminate these drugs entirely, or accept preparations of them concerning the reliability of which they could know nothing.

The preparation of biologic products presents a much more striking example of what animal experimentation is doing for the veterinarian and the animals he is called on to treat. One hundred per cent of these therapeutic agents depend wholly or in part on animal inoculation and animal experimentation for production, tests of potency, tests of safety, and so forth. Hog cholera serum and virus, anti-anthrax serum and vaccine, blackleg vaccine, tuberculins and malleins head the list of biologic products without which the followers of veterinary medi-

cine could not long hope to maintain the record they have made in conserving the health of animals.

Again, in certain communicable diseases for which there is no specific treatment, animal research has made possible the development of measures whereby epidemics may be checked and foci of infection eradicated. The stupendous achievements in the campaigns of eradicating tuberculosis of cattle, tick fever glanders and other plagues have in one way or another been brought about by investigations carried on with living animals.

It may be argued that the prohibition of animal experimentation can have little effect on veterinary problems for the reason that much of the legislation aimed at restriction of this practice has for its chief object the exemption of the dog from experimental work. This is partly true and yet the forces opposed to animal experimentation are working to prohibit all animal experimentation so far as possible. Those familiar with the situation are entitled to question the advisability of allowing an entering wedge of any degree to be inserted beneath the foundation of further advancement in the medical sciences. If the opponents of animal experimentation succeed in prohibiting the use of the dog in research, then, to be consistent, they should and undoubtedly would bend their energies toward exempting other species or all species of animal life from this work. Once started, inconceivable havor may be wrought by the unsympathetic intrusion of those who refuse to see the benefits obtained by observation on animals. Those who oppose the germ theory of disease and even go so far as to question the existence of such communicable diseases as rabies are scarcely fitted to dictate what shall be done and what shall not be done along the lines of experimental investigation.

For many years, the medical profession has carried the brunt of the fight which has been forced upon it by the pernicious activities of mistaken individuals who have assumed the role of animal lovers supreme. And yet the veterinary profession has just as much at stake as those who are primarily concerned with the public health. It is true that some of the leaders in our profession are taking part in the activities of those organizations whose purpose is to teach the public the value of animal experimentation. As a profession, however, we have been inclined to limit our activities to the passage of resolutions opposing legislation aimed at the restriction of such research.

Every veterinarian, in his daily contact with clients, can ac-

complish much by tactfully pointing out the relationship of the work which has made possible the development of agents, such as anti-hog cholera serum, for the control of infectious diseases. If the live stock owners of the country can be made to grasp the significance of animal experimentation as it applies to the health of their stock, a tremendous influence will be exerted in the interests of veterinary science and the advancement of medical knowledge generally.

In bespeaking the active interest of all veterinarians in the cause of animal experimentation, it is not asked that they relinquish in any degree their regard for animals. This profession, from its very nature, should have greater interest than any other group of persons in the welfare of all domestic animals. But we must be able to discern between what is best for the livestock industry with its millions of animals and what a few individuals would have us believe is best for the comparatively small number of animals used in research. The greatest good to the greatest number is a principle which can be applied to any situation.

Today there are just as difficult problems in veterinary medicine which require the assistance of animal experimentation to effect their solutions as have existed in the past. Much remains to be accomplished in abortion disease in cattle, foot and mouth disease, certain swine diseases, canine distemper, nutritional diseases, and a host of the more common ailments concerning which our knowledge is still rudimentary.

Briefly then, animal experimentation has furnished the basis for veterinary education; it plays a part in the production of 10 per cent of the drugs used in veterinary medicine; it is concerned with 100 per cent of veterinary biologic products. In the past all the veterinary profession has been able to accomplish in the control of infectious disease has been due to considerable extent to what animal experimentation has taught. Any future progress will depend quite as much on the same factor, and it is imperative that we do all in our power to prevent the weakening of that force.

DOG LANGUAGE

Agitated Hotel Manager—"Say, don't you know that you shouldn't whistle in the lobby like that?"

Bell Boy—"Boss, I ain't whistlin'. I'se pagin' Missus Jones' dawg."

GLANDULAR GROUP ANTAGONISM. ITS APPLICA-TION TO VETERINARY PRACTICE. PHYSIO-LOGICAL STANDARDIZATION1

By J. F. SHIGLEY, D. V. M. and C. L. MECK, B. S.

Beebe Laboratories, Inc., St. Paul, Minn.

In order to outline clearly the purpose of this paper, reference must be made to previous articles on the subject of glandular therapy and its relation to diseases of animals. The discussions and results of experimental investigations* are based upon a theoretical study of the physiologic activity of glandular life. The periods of glandular activity and the important endocrine glands which are related to the different periods are shown in Table 1.

TABLE 1-PERIODS OF GLANDULAR ACTIVITY

1. YOUTH	2. SEXUAL	MATURITY	3 PREGNANCY	4. Suckling	5. OLD AGE
Thymus Pituitary Thyroid Adrenal Pineal	Male Testes Adrenal Thyroid Pituitary Prostate	Female Ovary Adrenal Thyroid Pituitary	Placenta Corpus luteum Mammary Foetus Uterine mucosa	Mammary Ovaries Uterine mucosa	Atrophy of all of the glands of internal secretion

It has also been shown that a properly balanced mixture of extracts of the sexual maturity group is indicated for the treatment of failure to come in heat or "non-breeder," also for retained placenta and delayed parturition. Such preparations can be accurately standardized in the laboratory, by their specific abortive action on pregnant guinea-pigs.

Reference has been made to clinical data on the successful use of an experimental glandular extract mixture for the treatment of animals in which the signs of heat were not pronounced. and those which fail to breed. Attention has also been called to the successful clinical treatment of animals afflicted with nymphomania.

GLANDULAR GROUP ANTAGONISM

The present paper is limited to consideration of the two important glandular groups, namely, the female sexual maturity

¹Read before the Missouri Valley Veterinary Association, St. Joseph, Mo., February 13, 1923.

^{*}King and Shigley, Glandular therapy with special reference to animal experimentation. Veterinary Medicine, January 1923; Shigley and Meck, Endocrine therapy, North American Veterinarian, February, 1923; King, Glandular therapy in treatment of animal diseases, North American Veterinarian, January, 1923; Shigley, Organo-therapy, Veterinary Medicine, February, 1923.

group (No. 2, Table 1) and the pregnancy group (No. 3, Table 1). It is the purpose of this paper to report results which strengthen the theory, that the neutralizing or antagonistic action of one of the above glandular groups may be used to practical advantage in bringing the opposite glandular group into proper balance when same is over-stimulated or hyper-active. The results recorded in the earlier articles have shown experimentally that there exists a glandular group antagonism directed by the female sexual maturity group against the pregnancy group, as evidenced by the abortion of 80% of pregnant guinea-pigs after injection with synergistically balanced extracts of the sexual maturity group. This observation affords not only concrete evidence as to the existence of glandular group antagonism but, as already has been stated, it provides a means of physiologically standardizing a glandular extract mixture which is clearly indicated in the treatment of conditions in the breeding animals which are dependent upon a lowered tone, lack of balance and debility of the female sexual maturity group. Such conditions are: failure to come in heat or "non-breeder," retained placenta and delayed parturition.

Nymphomania—Clinical Results from Treatment with Pregnancy Group (No. 3)

Turning to the pregnancy glandular group which consists of placenta, corpus luteum, mammary, fetus and uterine mucosa, the theory has been advanced that a synergistically balanced mixture of these glandular extracts is clearly indicated in the treatment of nymphomania. This is theoretically true because of the fact that in nymphomaniacs the sexual maturity group of endocrinous glands (ovary, adrenal, thyroid and pituitary) are over-stimulated, or are subject to hyper-activity, while the glands of the pregnancy group (corpus luteum, mammary and uterine mucosa) are lacking in proper tone or are debilitated. In such cases, the animals should be treated with repeated injections of a properly balanced mixture of the pregnancy group extracts. In support of this the results are submitted (Table 2) following the treatment of seven grade cattle which were chronic nymphomaniacs.

DETAILED DISCUSSION—NYMPHOMANIA CASE REPORTS

These animals were all registered Holstein cattle, kept in the usual well-arranged, modern barn and provided with bal-

TABLE 2-TREATMENT WITH PREGNANCY GROUP No. 14

No.	Age	Record of Calves and Abortion	Heat Periods	Period of Nymphomania	Condition before Treatment	Period of Treatment	Result
1	5	3 calves (1 abortion)	Daily	About one year	Loss of flesh.	14 days (5cc); 25 days (10cc).	Increase in butter-fat and flesh. Heat period— 2 weeks.
2	5		2-3 days	**	Broad ligaments relaxed.	64	Same. Heat—20 days.
3	9	46	2-3	-3 6 months		68	As above. Heat—14 days.
4	4	2 calves	per	8 **		14 days	
5	5	8.6	week	8 "	Sagging back.	(5ee).	Improvement. Were sold.
6	4	1 calf	2-3 days	10 "			
7	12	Number of calves not determined. Retained placenta. Vaginal dis- charge.	Daily	More than one year.		2 weeks (5cc). Increased to 10cc. (2 weeks)	Marked improvement. Developed abscess in 1 ovary, sterile

anced rations fed according to approved methods. Special attention was paid to milk records and butter-fat production and less to the breeding condition of these animals. As nymphomania became evident the veterinarian's attention was called to the condition, and repeated examinations, with rupture of cysts, failed to bring about any marked improvement. It was then decided to use a balanced mixture of extracts of the pregnancy glandular group in an attempt to restore the normal activity of the parts affected.

Cow No. 1 had given birth to 3 calves, one of which was an abortion. This animal was fed for milk production and developed chronic nymphomania. This was accompanied by loss of flesh, changes in broad ligaments, sagging back and a consequent decrease both in the amount of milk and the butter-fat content. experimental lot No. 14 of the pregnancy glandular group was injected in 5-cc doses daily for about two weeks, when the herdsman allowed the animal to go for a short period without injections. When injections were resumed 10 cc daily were given with marked improvement in the physical condition of the animal, increased butter-fat, and an improvement of ovarian tissue, with a decrease in formation of cysts. The frequency of the heat periods rapidly subsided and at the time the above record was made the minimum period was at 14-day intervals.

Cow No. 2 has a record very similar to Cow No. 1, with the exception that heat periods were at 2- to 3-day intervals. Im-

provement was marked following the use of the extracts of the pregnancy glandular group as the heat periods were at twentyday intervals which is approaching a normal condition.

Cow No. 3 showed extensive physical changes, with sagging back, base of tail prominent, broad ligaments sunken. Heat periods occurred 2 or 3 times per week with the usual effect on milk-production. Ovaries were cystic and body of uterus showed lack of tone. The use of extracts of the pregnancy group was indicated and the improvement was very noticeable. The ovaries showed a rapid approach to normal consistency, with less tendency to cyst development. The uterus had a better tone and the heat periods were at approximately fourteen-day intervals.

Cows Nos. 4, 5 and 6 were younger than the others and showed fewer external physical characteristics than the others. When treated, these animals showed improvement and were sold with a group of others from the same herd. It would seem that these animals were sufficiently changed in habits so that the purchaser would not recognize that chronic, nymphomaniac conditions had existed.

Cow No. 7, aged, number of calves not determined. This animal had a history of retained placenta, at last calving, and a vaginal discharge which was not controlled with the use of local applications. Nymphomania had been evident for over a year and hence the case presented was not very favorable. The use of experimental lot No. 14 resulted in an increase in general tone as well as in the tone of the uterus and ovaries. However, this animal developed an abcess in one ovary and the owner desired to dispose of her.

In all of the above cases the animals were subjected to regular examinations and cysts were ruptured as they were detected. It is well to bear in mind that all of these cases were of long standing and most of them had been considered hopelessly chronic, beyond any form of control or treatment. The results clearly show that repeated injections of synergistically balanced extracts of the pregnancy group, experimental lot No. 14, effected a material change in regulating the heat periods, in controlling the behavior of the animals, and in influencing the production of butter-fat.

Physiologic Action, Pregnancy Group (No. 3)

Among other laboratory experiments, concerned especially with the experimental testing of the activities of various glandular mixtures, considerable attention has been given to the development of a physiologic test of a synergistically balanced mixture of the extracts of the pregnancy glandular group (placenta, corpus luteum, mammary, fetus and uterine mucosa). It has been found that the potency or activity of such a product may be determined by the use of normal virgin guinea-pigs which have attained the breeding age. Such animals, as they are found in good, healthy breeding-stock are represented for the most part by young females, in which the sexual maturity group of endocrinous glands are active, due to rapid maturity and in many cases are over-stimulated.

It is, of course, well known that the guinea-pig represents an animal which is a prolific breeder and in which the period of gestation is relatively short (seven weeks). Those who are familiar with the breeding of guinea pigs, especially on a large scale, often observe that in a lot of virgin females, of approximately the same age or same period of sexual maturity, conception will occur at various times. This is in all probability due to an absence of proper balance between the sexual maturity and pregnancy groups of glands. The rapid development of the sexual maturity group of glands causes an over-stimulation of that group and a consequent delay before the sexual maturity group regains a normal degree of activity and allows the pregnancy group to attain full activity. With these observations in mind, a series of experiments were conducted in sixteen virgin guinea-pigs, a summary of which is found in Table 3.

The above series of guinea-pigs were known to have been virgins, and had had no opportunity to become pregnant, as male animals had not had access to them before the experiment was undertaken. As the period of gestation of a guinea-pig is seven weeks the experiment was conducted for that length of time. Eight of the animals were treated with 1 cc of synergistically balanced mixture of extracts of the pregnancy group, experimental lot No. 14, the subcutaneous injection being given at 48-hour intervals. Three of the control animals were given 1 cc of protein solution, which represented the same amount of protein material obtained from the tissue extracts as that contained in the glandular extract mixture. Five of the control

Table 3—Experiment to Determine Effects of a Mixture of the Extracts of the Pregnancy Glandulae Group

Pig No.	Weight gms.	Period of Treatment	Treatment	Distribution and Number of feti		Total wgt. of feti per pregnant pig
1050	400	48 days	1cc. Lot 14 Every other day	Right horn	2	12.5 gms.
1059	410	40	44	Both horns	2	8.9 gms.
1060	448	44	44	**	3	30.0 gms.
1061	420	40	44	0.0	3	14.60 gms.
1062	420	64	+1	+5	3	29.60 gms.
1063	390	64	+ 5	Right horn	2	3.80 gms.
1064	410	41	46	Both horns	3	Too small to weigh
1056	360	1.	4+	80	3	20.00 gms.
1065	330	46	1cc. protein solution	Non-pregnar	nt	
1067	450	14	**	44		
1069	450	41	4+	Left horn	3	32.30 gms.
1070	380	14	Control	Right horn	1	Too small to weigh
1071	350	94	86	Non-pregnan	nt	
1072	350	44	40	- 44		
1073	315	44	46	Left horn	1	4.80 gms.
1074	380	41	+6	Right horn	1	3.10 gma.

animals received no treatment whatever. The results of this experiment are summarized in Table 4.

TABLE 4-SUMMARY OF RESULTS OF EXPERIMENT WITH PREGNANCY GLANDULAR GROUP

Eight Virgin Females treated with Mixture of Extracts of Preg- nancy Group No. 14		Eight Virgin Females three treated with Protein Extracts. Five untreated.
100%	Percentage Pregnancies	50%
21	Number of feti	6
118.5 gms.	Weight of feti	40.1 gms.
14.8 gms.	Average weight of feti per mother	5.0 gms.
75%	Both horns of uterus pregnant	0
250%	Percentage increase, feti over controls, by number	
188.3%	Percentage increase, feti over controls, by weight	

A concrete idea of the results secured in the above experiments may be obtained by a glance at photograph (Figure 1), of the feti dissected from the uteri of both treated and untreated pigs. Five of the treated virgins produced three feti each. Usually primipara give birth to only one or two pigs.

The clear-cut, distinctly positive results of the above experiment, in addition to furnishing good evidence that a properly balanced mixture of the extracts of the glands of the pregnancy group may be tested in the laboratory, also clearly demonstrate the practical application of the use of balanced extracts of the pregnancy group of endocrinous glands in clinical work. It is clearly shown that such a preparation exerts a distinctly antagonistic action toward the female sexual maturity group of glands. This conclusion is borne out by the result of clinical work upon cattle which are subject to chronic nymphomania. The use of a balanced mixture of the extracts of the pregnancy group exerts a markedly beneficial action in antagonizing or neutralizing the over-stimulated female sexual maturity group.

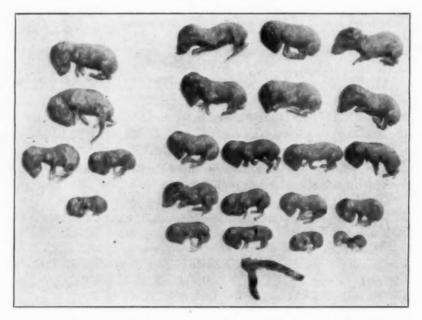


FIG. 1. Feti on left are those from control pigs. Those on right from treated pigs. One fetus omitted from group on left, being too small to be dissected from uterus. Uterus at bottom of group on right contains three feti too small for dissection.

PRACTICAL APPLICATION OF THE GLANDULAR ANTAGONISM OF PREGNANCY GROUP

Furthermore, in the light of this experiment it seems probable that non-breeding animals, with the exception of those which are subject to specific infection or surgical disorders, may be divided into two classes: first, those which fail to come in heat; second, those which come in heat, but which fail to conceive. Those animals included in the first class, which fail to come in heat, represent an improper glandular group relationship, in

that the pregnancy group predominates, thus holding in check the female sexual maturity group. Such cases show material results following the use of a properly balanced mixture of the extracts of the female sexual maturity group. Secondly, those animals which come in heat, but which persist in failure to conceive, illustrate the predominance of the pregnancy group over the sexual maturity group. It seems evident that in such cases the relationship of the two groups is such that the activity of the sexual maturity group is overneutralized by the hyperactivity of the pregnancy group. It follows, therefore, that in such cases a properly balanced mixture of extracts of the pregnancy group should be administered for the purpose of stimulating the pregnancy group and antagonizing the hyper-activity of the sexual maturity group.

PRACTICAL APPLICATION OF THE GLANDULAR ANTAGONISM OF SEXUAL MATURITY GROUP

As illustrating further the practical application of glandular group antagonism in the treatment of certain animal diseases reference may be made to the results of experiments reported in previous articles. It was found that the administration of a properly balanced mixture of extracts of the female maturity group, to pregnant guinea-pigs, exerted a specific abortive or oxytocic action in 80% of the treated animals. Aside from the scientific application of these results in the standardization of such a glandular extract mixture, which is indicated for the treatment of animals which fail to come in heat, and in which the sexual maturity group of glands is not normally active, they are of practical importance from the point of view of the application of glandular group antagonism. Not infrequently abortions are desired in pure-bred animals. This is especially true in the case of pure-bred cattle, which have been inadvertently served by a scrub bull. It often happens that a valuable bitch is bred by a mongrel or the value of a registered filly is impaired because of accidental service by a grade stallion. In such cases a synergistically balanced mixture of the extracts of the sexual maturity group of glands, in repeated doses subcutaneously, should be given to produce the desired abortion. This follows along the line of a physiologic process unattended by loss of flesh and debility, which are commonly experienced after the use of various drugs employed for this purpose.

SUMMARY

- 1. The basis for the experimental work outlined depends upon the grouping of the various endocrine glands in their relation to the different periods of life, as follows: (1) Youth (thymus, thyroid, adrenal, pineal); (2) Sexual Maturity (ovaries, adrenal, thyroid and pituitary for the female, and testes, adrenal, thyroid, pituitary and prostate for the male); (3) Pregnancy (placenta, corpus luteum, mammary, fetus and uterine mucosa); (4) Lactation (mammary, ovaries, uterine mucosa).
- 2. A synergistically balanced mixture of extracts of lot No. 14 showed markedly beneficial action in the treatment of a series of seven cows which were chronic nymphomaniacs. The heat periods were reduced from approximately daily to two or three times a week, to fourteen- to twenty-day intervals. The butter-fat was increased, as well as the general condition and the habits of the animal.
- 3. A series of sixteen virgin female guinea-pigs were removed from the pens in which no males had had access and placed with breeding males. Eight of these pigs were given subcutaneously. at forty-eight-hour intervals, a properly balanced mixture of extracts of the pregnancy group. Eight of the pigs were retained as controls, three of these being given subcutaneously. at forty-eight hour-intervals, 1-cc doses of protein extract solution. At the end of forty-nine days all animals in the series were killed and autopsied. 100% of the treated animals were pregnant, while only 50% of the controls were pregnant. treated animals as compared with controls showed the following results: 21 feti as against 6: 118.5 gms of feti, as against 40.1 gms: 14.8 gms. of feti per mother as against 5 gms.; both horns of the uteri pregnant in 75%, as against none. The percentage of increase of feti in the treated animals, by number, was 250% and by weight, 188.3%.
- 4. The results of these experiments show that a properly balanced mixture of the extracts of the glands of the pregnancy group exerts an antagonistic action, or a neutralizing effect, upon the secretions of a hyper-active female sexual maturity group.
- 5. The results of guinea-pig experiments tend to indicate that non-breeding animals may be divided into two classes. First, those which fail to come in heat, due to lowered activity of the sexual maturity group of endocrinous glands, and second, those which do not conceive although they come in heat, due to a

predominance of the activity of the pregnancy group over the sexual maturity group of endocrinous glands.

- 6. Further illustrations of the practical significance of glandular group antagonism in the treatment of animal diseases is afforded by the action of properly balanced extracts of the glands of the female sexual maturity group, in exerting a specific abortive action in 80% of treated guinea-pigs. This might be applied, in the field, in the case of pure-bred heifers, or other valuable animals which have been inadvertently bred to undersirable sires.
- 7. The results of experimental work indicate that the proper application of glandular group antagonism, if directed in a careful manner, depending upon properly diagnosed conditions, should yield specific beneficial clinical results.

ENGLAND'S FIRST WOMAN VETERINARIAN

England's first woman veterinarian has distinguished family connections. She is Miss Aleen Cust, daughter of the late Sir Leopold Cust and a sister of Sir Charles Cust, Equerry to King George. Miss Cust told the story of how she became the first woman to enter upon the practice of veterinary surgery with the approval of the Royal College. Appropriately enough, she lives in a mews back of fashionable Eaton Sq., and as animals are her hobby in life, she is literally surrounded by highly bred dogs.

"It has taken me 18 years to get the diploma," she told your correspondent, "although a long time ago I passed through the four years' course at the Edinburgh Veterinary College, gaining medals and prizes in open competition. At that time the Royal College would not open its doors to women.

Miss Cust, among other activities, served during the World War in a bacteriological laboratory attached to a veterinary hospital in France. For 10 years she was veterinary inspector under the Galway County Council and the Department of Agriculture in Ireland, but had to leave when conditions became unsettled across the channel."

Brooklyn Daily Eagle

Dr. T. E. Munce, of Harrisburg, Pa., addressed the December meeting of the Pennsylvania Tuberculosis Society on "The Relation of Animal Tuberculosis to Public Health."

OBSTETRICS IN SMALL ANIMALS.

By WILLIAM J. LENTZ, V. M. D.

School of Veterinary Medicine, University of Pennsylvania.

In this paper I have confined myself to narrow limits, as the title, "Obstetrics in Small Animals", is entirely too comprehensive for one paper.

ESTRUM OR SEASON.—This in the bitch is an irregular function, usually twice each year; sometimes but once, in others oftener; duration from ten to twenty days. The consensus of opinion among breeders is that when copulation occurs late in the estral period, there will be a preponderance of males. Recent scientific investigations, however, prove that there is no foundation for this belief. Furthermore, they believe that a successful service is one which has taken place late.

Bitches in estrum should not be exposed to damp and cold or bathed unnecessarily. Congestion and enlargement of the lobes of the thyroid, bringing about difficult respiration, is not uncommon during estrum.

BREEDING OR MATING.—The sexes should be nearly equal size, so as not to produce offspring to which the female is unable to give birth. Like begets like, but it should also be borne in mind that the sire and bitch are in a sense only intermediaries through which the characteristics of the grandparents are transmitted.

Breeders are generally of the opinion that the bitch will retain a mental impression of the dog with which she has been mated. There is absolutely nothing in this. They keep the bitch isolated after a service, not only because of this idea, but also to guard against the danger of a second conception with an undesirable male. Several instances of superfetation have been brought to my attention, that is, a bitch may copulate several times during an estral period, with an interim of several days or more, thus accounting for different periods at which the progeny sometimes appears. One or two days is not at all uncommon between the puppings; in one case even ten days. The puppies may even be of different breeds.

Opinions differ as to the number of "visits" necessary to in-

^{*}Presented at the annual meeting of the Pennsylvania State Veterinary Medical Association, at Harrisburg, Pa., January 23 and 24, 1923.

sure pregnancy. This, however, depends largely upon the duration of the connection. It should be at least ten to fifteen minutes. The second "visit" should not be too long delayed so that the interval between the birth of the puppies is short. Because of the possibility of superfetation in the bitch, the interval between matings should not be more than twenty-four to forty-eight hours, and in delivering an animal, one should elicit a history as to the number of copulations, and the duration of time between.

DIAGNOSIS OF PREGNANCY.—This may frequently be determined by palpation of the uterus after the third or fourth week. This may of course be facilitated by first fasting the animal and then placing her on her side or back. Later, a fairly accurate diagnosis can be made by the use of the X-ray. The vertebral columns of the foetuses will be shown on the skiograph at a comparatively early period. Swelling of the mammae and the presence of milk in the teats are not necessarily a sign of approaching parturition, as this condition is frequently in evidence in estrum.

PARTURITION.—The duration of pregnancy is from sixty-two (62) to sixty-four (64) days. In our parturition cases in the bitch, we are frequently confronted with the question as to when to render aid. We should not be too hasty in making a display of our skill as obstetricians, as the time occupied in giving birth to a puppy is often of long duration, and the interim between births is often very long; this undoubtedly is a wise provision of nature to guard against prostration of the mother.

It is always advisable to make an examination per vaginam. If a puppy is felt through a sack of membranes, so to speak, that is, if the water-bags are not broken, one should, as a general rule, refrain from interference at this time. If, on the other hand, the finger comes in direct contact with the hair-coat of the puppy, and it is not in the pelvic inlet, then aid should be given.

The most frequent causes of dystokia are malpositions of the foetus, a too small or deformed pelvis, uterine inertia, etc. The first labor pains are short and somewhat weak, but as labor proceeds they should become stronger, longer and more frequent, and the supplementary respiratory and abdominal muscles should be active.

Uterine inertia calls for the administration of pituitrin, ergot or quinine, and in this connection it should be borne in mind that in some bitches with pendant bellies, the foetuses have to ascend a step, so to speak, to reach the pelvic inlet. Therefore it is advisable in some cases to hold up the abdomen of the bitch when she is laboring. In dry labor and in malposition of the foetus, I have found a vaginal and uterine douche of warm flaxseed tea, soap suds or therapogen solution of marked value, when it becomes necessary to employ instruments, because we can thus balloon the vagina and uterus and we are less apt to pick up or injure the walls of these organs; besides, we can frequently move the foetus about. In dry labor, it is sometimes advisable to place the animal in a warm bath, meanwhile keeping the finger in the vagina until relaxation ensues.

Ergot seems of marked value to produce uterine contractions in the bitch. If the labor is protracted and the pains are weak it is indicated.

Various instruments are employed for the extraction of puppies and there are several different patterns of forceps. The most necessary and essential feature of any forceps is that the blades must be long enough to grasp as much of the foetus as possible.

One of the simplest, and at the same time one of the most effective, instruments for the extraction of puppies is a piece of copper wire about one foot and a half in length and a canula. The wire is doubled and passed through the canula so as to form a loop at one end. The index finger of the left hand carries the loop into the vagina and holds it in place on the poll of the puppy. The end of the canula is now pushed forward beneath the chin and an assistant then puts traction on the wire. Another very effective instrument is simply a blunt hook made from a piece of stout wire about a foot long, exercising care to keep the finger on the hook after its fixation. Sometimes, by placing the hook into the intermaxillary space live puppies may be extracted. When the puppy is dead it may literally be raked out with such an instrument.

CESAREAN SECTION.—We prefer the median-line operation and do not consider it a hindrance to the proper suckling of the young. The question as to whether or not a uterus should be extirpated is dependent entirely upon the viability of the organ. If the uterus has a grayish, purplish or greenish color, is flaccid and involution does not appear to have taken place, then it should be removed. A viable healthy uterus should involute under one's eyes, so to speak, after the puppies are removed, and

one can often draw conclusions in this respect on noticing how freely the uterus bleeds when the incision or incisions made in it are stitched up. A healthy uterus bleeds somewhat freely when stitched. Preparatory to stitching, the cavity of the uterus should be flushed with a normal saline solution. The application of warm saline solution packs or the electric current, or lightly painting over the organ with Lugol's solution, will sometimes overcome the flaccidity and cause the organ to involute. As far as our experience enables us to speak, we are inclined to believe that the animal is more likely to survive an extirpation of the uterus, if the ovaries are not removed.

Besides puerperal sepsis and shock, a very common cause of death is hemorrhage from the uterus, which is made manifest by the blanched appearance of the visible mucous membranes. To guard against this, preparatory to and following the operation, we give hypodermically 10 to 30 cc of normal horse serum and in addition, ergot and atropine. Numerous reports by medical obstetricians call attention to the value of normal human, horse or rabbit serum in uterine hemorrhage and in eclampsia.

PUERPERAL SEPSIS or infection along the genital tract after labor, is sometimes a very intractable condition to treat, because of the long bicornuate uterus in the bitch. If complete or partial involution has occurred, and the contraction of the cervix uteri has been active, we find it almost a physical impossibility to treat the uterine mucosa by irrigation. Inasmuch as about ninety per cent of the infections of the genital canal are due to streptococci, antistreptococcic serum seems to be indicated. When recourse to instruments has been found necessary, irrigation with the following solution, by gravity, immediately after delivery and before the uterus involutes, will often prevent infection: formalin 20 minims, glycerine 4 ounces, and 1 pint of one per cent Lugol's solution. After injection, gentle pressure on the abdomen facilitates the removal of the solution.

If the temperature following labor is elevated for several successive days, one must assume either that general systemic infection has occurred or that an inflammatory action has begun along the tract, anywhere from the vulva to the ovaries. In general infection, we must support the body cells in the combat which they must wage with the invading micro-organisms. Occasionally, septic peritonitis is a complication, which is indicated by pain and rigidity of abdominal muscles on palpation, vomit-

ing, fever, etc. Sometimes as a sequel, we have bladder infection due to injury of the wall resulting from pressure and stretching, thus diminishing the vitality of the cells of the mucous membrane; and they are thus not in a condition to resist the attacks of micro-organisms which may have gained entrance to the bladder. This is made manifest by frequent micturition, pain on pressure, fever, pus in urine, etc. We have frequently found that Epsom salts, belladonna and sweet spirits of nitre, in rather large doses, reduce the temperature from 104 and over, to the normal in 24 hours.

Infection of the teats and a subsequent mammary inflammation or suppuration is sometimes prone to occur after parturition. Cleanliness, emptying of the glands by milking, and support by wide bandage are beneficial. Prevent suppuration by drawing the blood from the mammae by an active purge. Fomentations of very hot water and packs of lead water and laudanum frequently renewed are measures of value.

SUB-INVOLUTION.—An arrested or retarded return of the uterus to its normal condition and dimension after labor is of common occurrence. The most frequent cause is the retention of placentae, wholly or in part. Sometimes, of course, it is due to a passive congestion or hyperemia of the organ. Douching with a solution of therapogen, normal saline, soapy water or mineral oil, is indicated, as well as ergot or large doses of quinine by the mouth.

ECLAMPSIA.—The indications for treatment in convulsive seizures of this nature are: first, to diminish nervous sensibility and lessen muscular power, in order to reduce the convulsions in violence and frequency; and second, to eliminate the poison from the blood as quickly as possible. The first indication is met by an anesthetic such as ether or chloroforn and the use of hypodermics of morphine sulphate. The second by an active purge, normal saline, enemas, hypodermic injections of normal saline solution and arecolin.

Dr. Louis A. Klein, of the University of Pennsylvania, regarded as one of our foremost authorities on diseases of the udder, delivered addresses on the subject of "Mastitis" before the Schuylkill Valley Veterinary Club, at Reading, Pa., in December, and the Northeastern Veterinary Club, Wilkes Barre, Pa., in January.

INTERESTING CASES OF TUBERCULOSIS WITH LESIONS IN THE SUBCUTANEOUS TISSUE AND EPIDIDYMES¹

By FRED BOERNER, JR. AND V. G. KIMBALL

Philadelphia, Pa.

In July, 1922, one of us (V.G.K.) was called to examine a valuable Guernsey bull, which, according to the herdsman, showed some lumps in the skin over the cervical, thoracic and ischial regions. An examination revealed nodules arranged more or less in chains and about the size of walnuts. They were freely movable beneath the skin, firm, solid and painless. From the



Fig. 1. Shows location of subcutaneous nodules

ischial tuberosity to the hock, there were about fifteen or more of various sizes. Nodules were distinctly visible in the neck of the scrotum and on palpation the epididymes were found to be greatly thickened. There were several small nodules along the under side of the tail and a few over the ribs.

The history revealed that the nodules were first noticed about

¹Contribution from the Pennsylvania Bureau of Animal Industry and Veterinary School University of Pennsylvania. This paper was presented at the meeting of the Pathological Society of Philadelphia, December 14, 1922.

two months before, at that time being very small but growing rapidly. The patient was in good flesh but according to the herdsman was becoming slow in service. Since the herd (numbering several hundred) had recently passed a satisfactory tuberculin test, the diagnosis of tuberculosis was at that time excluded. The patient was negative to an ophthalmic and subcutaneous test in November, 1921.

On July 17th one of the tumors in the ischial region was excised for laboratory examination. A diagnosis of tuberculosis was made, based upon histologic examination. An ophthalmic and intradermal test was then applied with negative results. The patient began to lose flesh and had difficulty in rising. A stenotic



Fig. 2. Shows lesions found in epididymes

respiratory noise developed about the middle of August. The dyspnoea became quite marked upon the slightest exertion. It was finally decided to slaughter the animal.

On August 11th the bull was killed. A necropsy was performed and the following pathologic changes noted. The nodules previously described in the ante-mortem examination were found to be located in the subcutaneous tissue and in a few instances in the fascia between the muscles. Most of them were spherical, but a few, particularly those on the tail, were elongated. They

varied in size from a pea to a walnut and were either isolated, in clusters, or in chains, apparently following the lymphatics. They were for the most part confined to the hind quarters. A few nodules were found on the flank.

On section these nodules all presented the same general appearance, having a necrotic center which was rather firm with beginning caseation. Upon close inspection the necrotic center appeared somewhat laminated and surrounded by a distinct capsule which was rather thick. Similar tumor-like nodules were present in the genital organs. Both epididymes were converted into a mass of nodules identical with those just described. Between the nodules there was considerable induration. Both testicles were apparently free of any lesions. In the postpharyngeal region an abscess the size of two fists was found which contained a large quantity of flocculent pus. The wall was about one-half inch in thickness and on section showed minute areas of calcification. A portion of this abscess was directly pressing upon the larynx and superior end of the trachea. The superior cervical and retropharyngeal lymph-glands on both sides were greatly enlarged and caseous. A caseous lesion the size of a half-dollar was found in the anterior mediastinal lymph-gland. Several miliary lesions were found in the lungs. The liver contained a caseous lesion the size of a dime.

Smears made from these lesions failed to reveal acid-fast bacilli. However, a histologic examination of the lesions showed typical tuberculous inflammation in every instance. Guineapigs were inoculated as follows: Two with pus from retropharyngeal abscess, two with emulsion of mediastinal lymphgland and two with an emulsion of the nodules from the subcutaneous tissue. All of these animals developed generalized tuberculosis except those inoculated with material from the subcutaneous nodules. Even though we were unable to demonstrate tubercle bacilli in these nodules the histology was typical of this disease. This, together with the fact that extensive tuberculous lesions existed elsewhere, justified our considering them as tuberculous.

Discussion

Tuberculous epididymitis appears to be very rare in animals. This case shows very extensive lesions of both epididymes without involvement of the testicles. This is in accord with obser-

vations in human medicine that "Extension to the testicle may occur, but is unusual".

The central necrotic mass of the nodules found in the subcutis and epididymes was large in proportion to the capsule and well circumscribed. The degenerative changes were followed by coagulation necrosis with slight tendency to caseation. Whether it is usual or unusual for tubercles developing in these situations in bovine animals to develop in this manner we are unable to state. We may say, however, that in man tubercles in the skin and subcutis rarely caseate and it is difficult to discover tubercle bacilli in the lesions.

Why this animal failed to show sensitiveness to tuberculin might be explained by the theory of desensitization, in other words, that the lesions were so extensive that the animal developed a tolerance on account of the tuberculin thrown into its system from the lesions. But from the history of the case, together with the failure to react to either of the local tests which are supposed to be very sensitive, it is difficult to accept this explanation. Is it not possible for an animal to become infected with tuberculosis and develop extensive lesions without becoming sensitive to tuberculin? Are all strains of tubercle bacilli capable of producing the same degree of hypersensitiveness in animals.?

From our present knowledge of the tuberculin reaction we are unable to answer these questions. We present them merely as hypotheses. When more is known regarding the mechanism of the tuberculin reaction, these hypotheses may become facts applicable to such cases.

It might be well to add that this bull was mated to sixty-eight cows during the last year. The number of matings during the last six months was as follows: February 10; March 17; April 7; May 2; June 8; and July 2. The calves so far born have been vigorous and healthy.

The entire herd was tested during the month of November, 1922, and with the exception of one animal passed a satisfactory subcutaneous test. This one animal gave a slightly suspicious reaction and on account of her being mated with this bull she was slaughtered. A necropsy failed to reveal any visible lesions of tuberculosis.

Dr. N. H. Howlett, who has been located at Cardiff, Md., has removed to Lansing, Mich. He gives his address as 617 North Hillsdale St.,

A FEW CASES MET IN PRACTICE*

By HERBERT LOTHE, D.V.M., Waukesha, Wis.

A Holstein cow, 11 years old. An extremely high producer in that she had three records of over 1000 lbs. of butter, one above 1000 lbs. of fat, in a year.

History: Except for cystic ovaries that yielded to treatment in two months, cow had enjoyed perfect health since last freshening, in September 1919. She was bred and conceived on April 22, 1920. On January 21, 1921 (nine months after conception) cow had been "off feed" for four days.

Symptoms: Cow appeared dull labor pains were absent. Pulse, respiration and temperature normal. Vaginal examination revealed a completely dilated cervix with unruptured foetal membranes protruding. The membranes were ruptured allowing coffee-colored, placental fluids to escape (color probably due to intra-uterine scouring of fetus). A slight amount of traction delivered a live but somewhat weak male calf, which got to its feet in a couple of hours. The afterbirth was expelled spontaneously about eight hours post partum.

On afternoon of January 22, 1921 cow showed no improvement in appetite but showed evidences of weakness of posterior extremities. The weakness and unsteady gait were taken for signs of milk fever and the udder inflated with air. Two hours later the pulse was found accelerated, temperature normal, mental disturbances (eyes staring) which gradually became more pronounced until convulsions, with biting of fore legs, foaming at mouth, champing of jaws became manifest. The respirations became accelerated and finally assumed the Cheyne-Stokes variety. (Cheyne-Stokes breathing is breathing where the respiratory rhythm is changed in such a way that the patient after a pause of several seconds begins to breathe with gradually increasing rapidity and depth, and then, after reaching an acme of hurried respirations, gradually decreases their rapidity and depth until they fade to nothing, when, after a pause the process is repeated).

Examination of the bladder showed that organ empty. After an hour or more the cow arose to her feet and appeared better, only to assume a recumbent position again with a repetition of the convulsions and Cheyne-Stokes breathing. Death occurred in

^{*}Presented at the First Short Course for Veterinarians of Wisconsin, Madison, Wisc., January 24-25-26, 1923.

about eight hours. Three hours after the death of the mother the calf showed convulsions that apparently responded to a hypodermic of ½ grain of morphine sulphate. Eight hours later a second attack of convulsions appeared, with death to the calf.

Treatment: This consisted of inflation of the udder and camphor in oil intramuscularly. Later chloral hydrate was given to control convulsions, with no response.

Post Mortem: No gross changes were revealed except edema of the lungs.

The thing of interest to me is,—What caused the train of symptoms enumerated? Was this parturient paresis? Eclampsia? Puerperal septicemia? Uraemic poisoning?

Milk Fever: The case has this in common with milk fever; it occurred shortly after parturition; there was weakness of the posterior extremities, and hyperaesthesia does occasionally occur in milk fever. It differs from milk fever in that inflation of the udder had no beneficial effect; there were convulsions, with apparent consciousness between attacks of convulsions; there was no somnolence so commonly seen in milk fever; there was disturbed respiratory rhythm unlike any I have ever seen or heard reported (Cheyne-Stokes breathing) in milk fever, and the calf manifested symptoms such as I have never seen in the offspring of cows that have milk fever.

Eclampsia: Eclampsia in women is defined by Williams* as "an acute toxemia occurring in pregnant, partruient or puerperal women, and is usually accompanied by clonic and tonic convulsions, during which there is loss of consciousness, followed by a more or less prolonged coma, and frequently results in death". Post mortem the condition is characterized by changes in the liver. "These consist of irregularly shaped, reddish or whitish areas scattered thru the entire organ and originating near the smaller portal vessels. Ordinarily they are readily seen by the naked eve, and on section give the liver a mottled appearance. Under the microscope they are recognized as areas of necrosis, involving the periphery of the individual lobules and the portal spaces". These post-mortem changes are considered pathognomonic. Healy and Kastle, working at the Kentucky Experiment Station in 1912, advanced the view that parturient paresis and eclampsia are identical, in that they found albuminuria, changes in the nitrogen partition of the urine, and liver changes simula-

^{*}Williams' Obstetrics, p. 568

ting those of eclampsia in cows with milk fever. These views are not generally accepted in that the liver lesions are not exactly those of human eclampsia.

In the case in question no examination of the urine was made as none was available. The characteristic liver lesions were not noted on gross examination and no sections were made for microscopic examination. The fact that the calf died in convulsions is suggestive of eclampsia as such occurrences are reported in the human. Cheyne–Stokes breathing does not seem to be a recorded symptom of eclampsia.

Puerperal Septicemia: The absence of temperature and the rapid onset and termination of the case is hardly that of puerperal septicemia.

Uremia: Uremia is defined as, "a toxemia from renal insufficiency developing in the course of nephritis or in conditions associated with anuria".* Clinically the symptoms are divided into cerebral, dyspnoeic and gastro-intestinal. The cerebral symptoms are those of mania, convulsions, coma and local palsies. The dyspnoeic symptoms are those of continuous dyspnoea, paroxysmal dyspnoea and Cheyne-Syokes dyspnoea.

In this case the post-mortem revealed no kidney lesions or obstructions to the ureters, but no microscopic sections were made so the condition may have existed. There was evidently suppression of urine but this condition also occurs in eclampsia.

It is to be regretted that urinary analysis and microscopic sections of the liver and kidneys were not made in this case, for in the absence of these it is impossible to state just what condition we had to deal with. It should be remembered, however, that our knowledge of the etiological factors of milk fever, eclampsia and uremia is very meager indeed, and that the scientific world realizes our profound ignorance of the subject. "Moreover, it should be borne in mind that totally different pathological conditions may be accompanied by identical clinical manifestations, so that a proper classification cannot be based upon the occurrence of such symptoms as albuminuria, fever, coma, or convulsions, but must be based upon our ability to isolate certain specific poisonous principles, or to demonstrate distinctive pathological lesions. Unfortunately the former is as yet out of the question, but the latter has already been accomplished along certain lines

^{*}Osler's Principles and Practice of Medicine, pp. 688-690.

(eclampsia)".* This case illustrates the limitations of a purely clinical examination in determining the nature of toxemias.

EVERSION OF THE UTERUS.

You have no doubt all had a great number of cases of eversion of the uterus in the cow, with the experience that quite a percentage recover after replacement, but a small percentage of cases, apparently identical, either die before replacement has been accomplished or shortly after it is completed. I have had this experience quite often and have held a number of post-mortems to determine the cause of death. I wish to report two cases that are typical of what I have found.

Case No. 1. A red, grade Durham cow inverted her uterus some 20 minutes before my arrival at the farm. The afterbirth was attached and what appeared to be an unusual amount of uterus protruded from the vulva. Cow was lying flat on her side, much depressed and unable to get up. During the process of removing the afterbirth the cow gave a few struggles and died. Postmortem revealed the peritoneal cavity and prolapsed uterus filled with clotted blood, the right, broad ligament was severed close to its attachment to the ovary and with it the utero-ovarian artery, from which the internal haemorrhage had occurred, I do not recall that I have ever seen this cause of death reported. The severing of the broad ligament of the pregnant horn allows that horn to protrude farther than otherwise and the condition may be suspected when the uterus seems unusually protruded.

Case No. 2. A grade Holstein cow inverted her uterus possibly three-quarters of an hour before my arrival. The afterbirth was not attached and the uterus was replaced after some little trouble, consuming about a half hour. A rope truss was being adjusted to the cow when she suddenly began to weave and dropped to the floor dead. A post-mortem revealed no internal hemorrhage but there was a great distention of the splanchnic veins with clotted blood. The mesenteric veins were about three inches in diameter and filled with clotted blood. This cow evidently died from what we know as "surgical shock".

All cases I have posted of cows that died suddenly after inversion of the uterus have fallen in these two classes.

^{*}Williams' Obstetrics, p. 550.

AN OUTBREAK OF HEMORRHAGIC SEPTICEMIA IN SHEEP

By I. E. NEWSOM and FLOYD CROSS,

Colorado Experiment Station, Fort Collins, Colo.

Unfortunately fashion seems to be in vogue in medicine as well as in the matter of dress. In presenting this subject, therefore, we feel very much as one who would go down the street in the middle of January wearing a straw hat. A few years ago practically every outbreak of disease among domesticated animals, which was associated with the presence of subcutaneous or subserous hemorrhages, was diagnosed as hemorrhagic septicemia. We, ourselves, may have been guilty of adding fuel to that widespread flame and if so, we are ready to do penitence as may be required. We, however, differ with some investigators and writers in this field, in that we still feel as we have previously stated, that hemorrhagic septicemia is a real disease entity and must still be dealt with regardless of fashion.

No one appreciates any more than we that many diseases are associated with hemorrhages, and that there are many obscure diseases of the domesticated animals, the cause of which we little know, but we do feel that a distinct advance was made when it was determined that hemorrhagic septicemia was the cause of certain losses in live stock. It is in line, then, with our previous publications, that we present another outbreak which we have diagnosed hemorrhagic septicemia. Not that this is a rare condition in our experience, but rather that the special work done on this case, separates it from many of the others with which we have worked, and gives us reason to believe that the information here set down will be appreciated by others interested in the subject.

A band of three thousand lambs, weighing in at 54 pounds, was loaded at Sweet Grass, Montana, fed at Billings, at Casper and just out from Wendover, and arrived at the pens near Fort Collins, on November 7, 1922. Altogether they were on the road approximately eight days, the usual time being increased, owing to a severe snow-storm. When the lambs arrived, they showed evidence of having been on the road for some time, because some of them had the wool eaten from their backs;

otherwise they appeared rather strong and were in no case to be considered as cull lambs.

During the day they were allowed to run on beet and stubble fields, and were put in the pens and given alfalfa hay in self-feeders at night. No grain was given for approximately two weeks after arrival. Within a few days, some of these lambs were noticed to have a discharge from the nose and a considerable number showed crusted lips, which latter condition is common in feed-lot lambs during the first two weeks after arrival. The illness shown by the lambs, however, seemed to increase and deaths became more numerous, so that on the 19th, when they were first visited by the writers, there were about 200 noticeably ill and the loss to date had been approximately 50 head.

On examination, we found a considerable percentage of the swollen, crusted lips, quite a number showing purulent discharge from the eyes and nose, many showing dullness, but of four temperatures taken all appeared to be normal. The owner stated that coughing was rather noticeable in the lambs. While some of the smaller ones were among those dead, yet the loss was rather heavy among those that appeared to be strong and in a good condition of flesh.

Of four lambs posted, one showed marked evidence of pneumonia in the lower portion of both lungs, without other lesions. The other three showed no evidence of pneumonia, but did show the usual subserous and submucous hemorrhages, which we are prone to associate with hemorrhagic septicemia.

As the disease progressed, there was a larger percentage of those posted showing solidification of the lungs, and a smaller proportion showing the hemorrhages which are generally considered to be indicative of the acute type of disese. Gastritis and enteritis were seldom observed and scouring was not a noticeable symptom. The disease continued without abatement for the next six days, and from then on for the next two weeks an occasional lamb was lost, so that the total loss attributable to the outbreak was 116 head.

Some of the sick were removed to a hospital pen, and specially cared for, but no medicinal treatment was used on any of them, nor was any vaccine administered. An interesting factor was that these lambs were placed in the same pens and mixed with two thousand other lambs that had been received about two weeks previously. As far as could be determined, there was no

spread of the disease to the other lambs. This statement cannot be made as a positive fact, but it is believed to be true. This observation is in accord with many which have been made previously, and which seemed to indicate that the disease does not spread from one band to another.

Since the question had been frequently asked us, as to what percentage of lambs, in what we regarded as a typical outbreak of hemorrhagic septicemia, would show the bipolar organism, we determined to make special observations on that point in this case. As a consequence, the place was visited each day for the next six days, and material was brought to the laboratory where rabbit inoculations were made according to the table submitted herewith. These inoculations were carried out by taking a small portion of the tissue and emulsifying it in boiled water, after which approximately 2 cc of this emulsion was injected intraperitoneally into the rabbit. The accompanying table will show that of 34 rabbits inoculated, 32 died rather promptly, and from which a pure culture of *Pasteurella oviseptica* was obtained in each case.

Since it had been our belief that animals showing localization, oftentimes did not show the presence of the organism in the

TABLE 1

Rabbit No.	Tissue used	Inoculated	Died	Pure culture from heart-blood of rabbi
1	Spleen	11-19-22	11-20-22	+
2	Lung	11-19-22	11-20-22	+
2 3	Spleen	11-19-22	11-20-22	+
4	Spleen	11-19-22	11-20-22	+
5	Spleen	11-20-22	Lived	_
6	Spleen	11-20-22	11-22-22	+
7 8	Spleen	11-20-22	Lived	_
8	Spleen	11-20-22	11-21-22	4-
9	Lung	11-21-22	11-22-22	+
10	Lung	11-21-22	11-22-22	+
11	Lung	11-21-22	11-22-22	+
12	Lung	11-21-22	11-22-22	+
13	Spleen	11-21-22	11-22-22	+
14	Spleen	11-21-22	11-22-22	
15	Spleen	11-21-22	11-23-22	1
16	Spleen	11-21-22	11-22-22	† † †
17	Spleen	11-21-22	11-22-22	+
18	Spleen	11-22-22	11-24-22	+
19	Spleen	11-22-22	11-23-22	+
20	Lung	11-22-22	11-23-22	+
21	Lung	11-22-22	11-23-22	+
22	Lung	11-22-22	11-24-22	+
23	Lung	11-22-22	11-23-22	+
24	Lung	11-22-22	11-23-22	+
25	Spleen	11-23-22	11-24-22	+
26	Spleen	11-23-22	11-24-22	+.
27	Spleen	11-23-22	11-25-22	+
28 .	Spleen	11-23-22	11-24-22	+
28 29	Spleen	11-23-22	11-24-22	+
30	Lung	11-25-22	11-26-22	+
31	Lung	11-25-22	11-26-22	1 +
32	Lung	11-25-22	11-26-22	+
33	Spleen	11-25-22	11-26-22	+
34	Spleen	11-25-22	11-26-22	+

general circulation, and as most of the later cases showed evidence of pneumonia, rabbits numbers 25 to 29 inclusive, and numbers 33 and 34 were given spleen emulsion rather than lung emulsion. In all seven cases, however, the rabbits died, just as did the others in the same series that were inoculated with lung. Conclusion should not be made from this finding that all cases of localization will show the presence of the organism in the general circulation, as our previous observations have been against this view. It did seem, however, in this case, that the organism was as readily isolated from the spleen as from the lung, even though pneumonia was quite well marked.

In order to show that this organism had pathogenicity for sheep, on the 17th of December a lamb weighing approximately 50 pounds was given 10 cc of a 48-hour bouillon culture intrajugularly. Another one was given 5 cc in the same manner on the same date. The lamb receiving 10 cc was found dead the following morning, cultures from the spleen showing the presence of *Pasteurella oviseptica*. The lamb receiving 5 cc survived.

SUMMARY

An outbreak of hemorrhagic septicemia in sheep is here described, in which 116 lambs died out of three thousand. The history of the case would lead to the belief that the lowering of vitality, incident to shipping, was a very important factor in the onset of the disease, although it must be admitted that many bands passing through similar vicissitudes do not show any evidence of illness. The acute type of the disease seemed to be present early, which later developed into a marked pneumonia. Of 34 rabbits inoculated from tissue emulsions from 34 different sheep, 32 died, revealing pure cultures of Pasteurella oviseptica. The statement should be added that our unpublished observations, extending over a period of years, do not support the prevailing view that Pasteurella oviseptica can be regularly isolated from sheep dying from a great variety of diseases.

SELF-PRESERVATION

A Hint to Hens.—An Ottawa hen laid an egg daily for 107 days. There's a saying in every hen-house that an egg a day keeps the hatchet away.

TUBERCULOSIS CONTRACTED BY A FAMILY FROM A TUBERCULOUS COW

By E. D. KING, JR., D. V. M.

Valdosta, Ga.,

Mr. W. D. Odom, of Columbus, Ga., formerly of Valdosta, Ga., who used the milk of a tuberculous cow for his family to prove that he did not believe in its existence in cows ten years ago, and which disease has caused the death of his wife, the permanent disability of his son and the hospitalization of his two daughters, now believes that tuberculosis can be contracted from cows. His statement follows:

"In the fall of 1912 the dairy herd of Mr. O.H. Hightower was tested for tuberculosis by Dr. W. M. Howell, and two cows were put out of the dairy. One was killed as a reactor and one was called suspicious and the suspicious one was taken to my premises and milked. I felt that the office of Milk Inspector was a graft, to give some man an easy job, and did not believe that there was any such thing as tuberculosis in cows. This cow was fed, just as those in the dairy were fed, and in one month she looked so bad that I was afraid to milk her, She was given back to Mr. Hightower.

"My son, Jesse, developed tuberculosis the next year and has had it until the present time (about nine years) and my wife, I believe, contracted it from the boy.

"The boy was kept in the Hospital (Scottish Rite Hospital for Crippled Children) at Decatur, Ga., for four years, and on his back for nine months, where part of the bone of the neck was removed and a part of the leg bone used to replace it, and the bone of a sheep used to replace the leg bone.

"My two daughters are now in the tubercular hospital at Alto, Ga., and I believe that they contracted the disease from their mother, who was buried here today.

W. D. Odom"

Mr. Odom was an employe in the above-mentioned dairy about the time that meat and milk inspection was started, and had subscribed to the belief of some that it was not beneficial, and to prove his sincere belief that it was all wrong, took the cow against the advice and quarantine of the Meat and Milk

Inspector, but during the time he was milking the cow, the reactor (positive case of tuberculosis) was killed. He saw the post-mortem of this reactor and states that she was practically "eaten up" with it. At this time, John O'Neal was employed at the dairy, also, and he continually warned Mr. Odom that he was making a mistake, and too, his suspicions began to look as if something must be wrong with her, as she did not improve on the same kind and quantity of feed that the dairy cows were getting. This created a doubt in his mind as to the advisability



These people now believe that bovine tuberculosis is a menace to human health.

of using the milk from his suspicious cow. He returned her to the owner and in a short time she, too, was killed and proved to be a generalized case of tuberculosis, which fact has been established by Dr. Howell, who was then Meat and Milk Inspector of Valdosta, and made the tests and post-mortem. He states that she was, in his opinion, capable of spreading the disease.

Mr. Odom's son, Jesse, whose photograph is shown, is seventeen years of age and weighs 51 pounds. Nine years ago he weighed 55 lbs. He spent four years in the Scottish Rite Hospital for Crippled Children, and was discharged when he reached the age of fifteen years, because this was the age limit, and during

this time underwent two operations of bone transplanting, and was kept in one position, with weights keeping his legs extended, as his muscles were unable to keep his legs from drawing up. He can walk very well now, but will never be able to do nuch work.

Mrs. Odom suffered for seven years with the disease, and bore her misfortune with Christian fortitude, and said many times that she had hoped that no one else would have to suffer as she had. This statement was the chief reason for her relatives giving their consent to publicity and they readily consented to help assemble the facts that would tend to warn others of the danger of the tuberculous cow.

Mrs. Odom's mother is in possession of a photograph showing five generations of her family. Her grandfather lived to be nine-ty-one years of age and her father 66. Mrs. Odom's mother looks to be not over 45 and has married grandchildren, and nothing can be found to indicate that there ever has been any tuber-culosis in the family until this cow was used, but everything that can be learned tends to show conclusively that the entire trouble started from the cow.

This investigation has been made by the Board of Health at Valdosta, in co-operation with the State Veterinarian, and the U.S. Inspector in Charge of Tuberculosis Eradication for Georgia, ably assisted by all the civic organizations in Valdosta. The greater part of the investigation done outside of Valdosta has been done by representatives of the State Livestock Sanitary Board and the Bureau of Animal Industry, under the general supervision of Dr. A. L. Hirleman, U.S. Inspector in Charge of Tuberculosis Eradication for Georgia, which forces are actively and aggressively combating tuberculosis in animals.

From the above it does not seem that there remains any doubt that the tuberculous milk-cow is a serious danger to our public health.

The Bureau of Animal Industry has a moving picture, "Out of the Shadows", that shows the transmission of bovine tuberculosis to Mary Benton, and her recovery after three years in a tuberculosis infirmary. This was exhibited by the Board of Health of this City last April, and the total cost to the city was less than \$15.00 The local picture show management gave the theatres, electricity and operators free, and the Bureau loaned the film.

OBSERVATIONS ON THE TREATMENT OF PURPURA HEMORRHAGICA

By E. R. STEEL, D. V. M.

Grundy Center, Iowa.

In presenting this paper to the Association it will not be my purpose to go into the causative factors of purpura, but to give to you some facts learned in the experimental field and the school of experience. I hope that I am not at this time giving anything of sensational character and am not claiming for the treatment, as outlined, that it is a specific, but as used by myself in a large number of cases I believe it of sufficient value to present to the Association.

In speaking of the experimental field, I wish to state that this treatment was worked out by Dr. Joseph Wall, now of Harlan, Iowa, Dr. F. R. Ewing, of Shrieve, Ohio, and myself, while we were stationed at A. R. D. No. 317, Camp Pike, Arkansas, where we were in a position to have a large number of cases of purpura under our observation.

Potassium dichromate has for years been considered by a great many practitioners as one of the most useful drugs in the treatment of purpura and, I think, by a great many it has been of little use because, first, of the inability, in a great many cases of purpura, to give the drug per os on account of the swollen condition of the nostrils, lips and head in general. On the other hand, the irritant properties of the drug and the general disturbance of the digestive organs caused by it, renders the drug useless and probably many times harmful. Probably another reason for the poor results obtained from the use of this drug is due to the small dosage used, five to eight grains, which may be beneficial as an alterative to the upper respiratory tract but is useless in acute febrile diseases such as purpura.

These facts being established, we began to seek a method of administration of the drug to overcome its disadvantages, and concluded to try intravenous injections of a solution in sterile water. We began by giving ten grains daily, in the jugular vein, with beneficial results and continued this method of administration, increasing the dosage until we gave as high as forty-five grains at a dose, repeated in forty-eight hours in severe

cases, with no apparent harmful but unusually gratifying beneficial results.

We continued along this line and I have come to the conclusion that twenty to twenty-five grains, administered in eight ounces of sterile water, at intervals of forty-eight hours, would be about as near a standard as possible to arrive at in the average case, this to be varied as to the severity of the case and size of the animal.

I clip the hair over the jugular about midway of the neck, and paint the skin with iodine. By putting pressure on the lower part of the jugular, and stopping the flow of blood, the vein is caused to expand so it is easy to puncture with an ordinary sixteen-gauge hypodermic needle, the blood flowing in a steady stream through the needle when the lumen of the vein is reached. I then use a large-sized hypodermic syringe to inject the solution which has been made up previously by dissolving as many fivegrain potassium dichromate tablets as I wish to use for one dose, in eight ounces of water which has been sterilized by boiling. This material I inject slowly through the needle into the blood-stream. Before withdrawing the needle I inject a small amount of sterile water, to rinse out any of the solution in the needle, because owing to its irritant nature, if it escapes into the tissues overlying the jugular, it will cause severe swelling and even sloughing if any considerable amount is allowed to escape. In one experimental case the lumen of the vein was completely closed by repeated injections of too concentrated a solution.

Potassium dichromate administered in this manner, in addition to its alterative properties, is a powerful heart stimulant and regulator, slowing the rapidity of the heart-beats and strengthening their force. This action continues for several hours, in fact longer than from any other drug I have observed, and for this reason I recommend the doses to be at intervals of forty-eight hours. Usually in the most severe cases marked diminution in the swelling of the head and limbs can be observed within forty-eight hours after administration of the first dose. Subsequent doses may be regulated according to the condition of the patient.

The question will arise in some minds, as to the methods of administration admitting air to the blood-stream. I have never had any trouble on this account, in fact have injected air into the jugular in experimental cases, and have as yet to see any harmful results or any change in the condition of the animal whatsoever.

It has been my experience that in using the treatment as outlined, that it is seldom necessary to use the tracheotomy tube, if the case is not too far advanced before the treatment is begun. When it is used, it is not usually necessary to use it for more than two to three days. As stated in the beginning, this treatment is not a panacea or a specific, but one that has been of value in my practice.

Dr. Harold B. Elliott is a member of the Rotary Club of Hilo, Hawaii, and suggests that for the benefit of the veterinary profession, the classification of Veterinarian should be filled in every rotary club in the world. The following is taken from the Souvenir Holiday Number of the Lava Flow, which is designated as the Bi-Weekly Eruption of the Rotary Club of Hilo:

"ROTARIAN WELCOME TO ALOHA-LAND

By Charles Eugene Banks

How shall we symbolize you, O Rotarians!
Hopeful as morning, the sun rising clear,
Citymen, countrymen, tradesmen, agrarians,
Bringing in happiness, banishing fear;
Welcome, thrice welcome! Aloha-land greets you,
If 'round the earth you should travel, we know,
Whoever smiles on you, handshakes you, meets you,
Feasts you and fetes you-wherever you goThe joys of our paradise once you have tasted
Time spent with others you'll think is just wasted."

Dr. G. A. Roberts has accepted a position in the Agricultural School at Lavras, Minas, Brasil. Dr. and Mrs. Roberts sailed for Brasil on the steamship Pocone, January 20th. They expected to visit all of the important ports of Northern Brasil, including Para, Ceara, Pernambuco and Bahia, on their way down to Rio de Janeiro. Many of the members of the Association who attended the meeting at St. Louis, has the pleasure of meeting Dr. Roberts there.

THE TREATMENT OF TETANUS

By N. S. MAYO, Chicago, Ill.

Tetanus is much more frequent in animals than in man. In a recent number of the Journal of the American Medical Association, Drs. Goler and Reitz, of Rochester, New York, report a case of tetanus in a man without evident portal of entry. This case and several others reported recovered. The treatment administered was tetanus antitoxin and magnesium sulphate subcutaneously. In Cuba tetanus in horses without visible wound was quite frequent and was called by the natives "moon tetanus". Such cases were usually milder in character than those resulting from wound infection.

In 1916, Meltzer, of the Rockefeller Institute for Medical Research, reported upon the "Inhibitory Properties of Magnesium Sulphate and Their Therapeutic Action in Tetanus" * and gives the following summary:

"The best general plan for the treatment of tetanus would seem to be as follows:

"In each and every case of tetanus, 1.2 c.c. of 15 percent solution of magnesium sulphate should be given by subcutaneous injection three or four times a day throughout the entire disease.

"When the disease is complicated by severe tetanic attacks, 1 c.c. of a 25 percent solution for every 10 kg. (20 pounds) body weight (in adults) should be given by the intraspinal method.

"When the disease is attended by immediately dangerous tetanic complications, from 2 to 3 c.c. per minute of a 6 percent solution of magnesium salts should be given then by an intravenous injection until dangerous symptoms subside or the respiration becomes shallow or too slow.

"When the respiration seems to become impaired in consequence of the administration of magnesium salt methods, calcium chlorid should be injected in the manner described above.

"It is advisable to have at hand an apparatus for intra-pharyngeal insufflation ready for use, whenever the respiration becomes slow or shallow.

"Finally, the simultaneous treatment by antitetanic serum should not be neglected".

While intraspinous injections are not practical in horses, the

^{*}The Journal of the American Medical Association, page 931.

magnesium sulphate and tetanus antitoxin can be given intravenously in severe attacks. Dr. Meltzer advises a 6 per cent solution given at the rate of 2 to 3 cc per minute, or a 3 per cent solution given at the rate of 5 to 6 cc per minute. In giving magnesium sulphate the respiration should be carefully watched and the injection discontinued immediately, should the respiration become slow or shallow.

BOVINE "FINGER PRINTS"

It is interesting to note the recently-recorded fact that the muzzle of the ox possesses an individuality in its surface-marking analogous to the whorls and arborifications present on the surface of human finger-tips, and that individual records are made of such with the same or even greater ease than in the case of man.

In an extensive series of tests no approach to identical distribution of line or pattern has been noted and the markings at birth persist throughout the life of the animal.

In the case of human beings recent observation has shown that the orifices of these sudoriferous glands disposed along and amidst the skin rugae, form of themselves an additional complex. tending further to increase the highly individualistic and specific character of the finger print. As the sweat-glands are particularly well developed in the muzzle of the ox, it is probable the orifices of the same will tend also to further enhance the specific nature of the "nose print." Some such ready means of differentiation has long been sought in the case of the horse, and the modern tattoo mark on the gums is a poor substitute for a "finger print" as regards its potentialities for identification. The value of such means of differentiation in the case of the ox is, of course, obvious and the stock-books of pedigree cattle will welcome a ready means of avoiding substitutions or ensuring identity, while the efforts of the scientist in preventive measures may conceivably be greatly aided. Individual differences of a constant nature exist as certainly in the dermal structure of animals of other species as exist in the case of the man's fingertips or the ox's muzzle, and, should the need arise, such differences will doubtless be found capable of demonstration.—Veterinary Notes in Journal of State Medicine (London.)

CLINICAL AND CASE REPORTS

(Practitioners and others are invited to contribute to this department reports of unusual and interesting cases which may be helpful to others in the profession.)

KITTEN TRANSMITS RINGWORM TO HUMANS

By E. I. SMITH,

Nashville, Tennessee

The writer had occasion to observe a case of ringworm in a family where a white Persian kitten had just been purchased from a cattery. The kitten appeared normal and healthy. However, a close examination disclosed a skin lesion on the nose and one or two pale red spots on the ears. As a matter of form, tincture of iodine was painted on the lesions and good results observed. In about ten days the child showed unmistakable lesions of *Tinea circinata* on the breast and arms. The infection seemed to be rather virulent and was accompanied by an extreme itching and burning sensation. The appearance of the lesions was alarming and caused no small amount of anxiety. A physician was consulted, but he failed to recognize it as Tinea. According to reports he made an empirical deduction by stating that it was some ordinary skin disease and prescribed an ointment which did not appear to be indicated.

After the expiration of about fifteen days the writer felt an itching sensation on the back of his hand. A red circle appeared, about one-quarter of an inch in diameter and rapidly spread to about three times its original size. At this juncture tincture of iodine was used both on the child and the writer, which brought an early improvement and permanent recovery. The remaining lesions of the cat were similarly treated and he was given frequent, warm-water baths with plenty of soap. At the present writing the cat appears to be free from the lesions and the family have experienced no further trouble with the Tinea.

The writer takes it for granted that the above described cases are infrequent, and therefore it is easily understood why the average physician or veterinarian fails to diagnose the trouble accurately.

ASSOCIATION NEWS

AMERICAN VETERINARY MEDICAL ASSOCIATION

Proceedings of Meeting of Executive Board, LaSalle Hotel, Chicago, Ill., December 6, 1922.

The Executive Board of the American Veterinary Medical Association convened at the LaSalle Hotel, Chicago, Ill., at 10:50 o'clock, December 5th, 1922, Dr. Cassius Way, Chairman of the Board, presiding: The following were present:

Dr. Cassius Way, Chairman (Member at-Large)

Dr. T. E. Munce (District No. 2)

Dr. J. A. Kiernan (District No. 4)

Dr. C. E. Cotton (District No. 5)

Dr. B. W. Conrad (District No. 6)

Dr. W. H. Welch, Pres.

Dr. M. Jacob, Treas.

Dr. H. Preston Hoskins, Sec.

Secretary Hoskins reported that the nominating ballots for the election of a member of the Executive Board for District No. 1 had been prepared and would be mailed on December 11, 1922. He reported that he had found it possible to mail the ballot in the form of a multigraph letter at a lesser expense than would be incurred in having the customary printed, postal-card forms. He further reported that there were 166 members in the District in good standing, although some of these had not yet paid their dues for the current year. He asked for instructions as to the eligibility of such members to vote in the election, if their dues for the current year were not paid.

The Secretary reported that he had been instructed by the former Secretary, Dr. Mayo, that no member could vote at any election, unless all indebtedness to the Association had been paid. Action on this matter was deferred until such time as the Secretary could again get in communication with Dr. Mayo. (Dr. Mayo called attention to Section 1, Article 15 of the By-Laws, which reads as follows: "No member may vote at a regular meeting until he has registered and paid his entire indebtedness to the Association." Dr Mayo stated that it had been customary

to so interpret the By-laws in district elections of Executive Board members.)

The Secretary reported that he had received from Dr. Mayo all of the properties in connection with the office of Secretary and that he had started to function as Secretary on the first day of October.

The Secretary reported having attended the annual meeting of the Michigan-Ohio Veterinary Medical Association at Adrian, Michigan, on November 15th, 1922. He reported that he had been asked to attend this meeting and give a talk on "The Outline of the American Veterinary Medical Association Program for the Coming Year." The Secretary called attention to the fact that it appeared as though the Association did not have at that time, what might be termed a definite policy, or any program mapped out for carrying out such a policy, and that . it would be very desirable if the officers of the Association could outline some sort of a policy toward which he might work, so far as the conduct of the office of Secretary was concerned.

Dr. Munce called attention to the fact that he had been on record for three years as to the desirability of the Association having a definite, comprehensive, forward-looking plan or policy along which to function, and that he had come to this meeting prepared to offer a resolution to the Executive Board. Dr. Munce was invited to read the resolution.

The resolution follows:

"Whereas, The objects of the American Veterinary Medical Association are:

(a.) To promote and protect the interests of the veterinary medical Association are:
(b.) To raise the requirements of veterinary education.
(c.) To procure the enactment of uniform laws and regulations governing the control of animal disease pertaining to veterinary medicine.
(d.) To carry out the enforcement of these laws and regulations.
(e.) To encourage public opinion, through various means, regarding problems of animal hydrogeneous description.

animal hygiene.

(f.) To promote good fellowship in the profession.

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"Whereas, It is recognised that this Association to function properly, to progress and to render the greatest service possible, must have a definite policy. (This policy setting forth its purpose, principles and scope of activity, namely; the relation of the profession to agriculture, public health measures, veterinary education, the practitioner, government regulatory or military service, agricultural extension, veterinary legislation, humane measures, allied organisations, veterinary biologics, publicity and such other matters that are of interest and vital concern to the profession." "Whereas, The American Veterinary Medical Association, conceded the largest and most influential veterinary organization in the world, is without such a policy; therefore he it.

therefore be it

"RESOLVED, That the chairman of the Executive Board be empowered to appoint committee to draft a suitable policy for the American Veterinary Medical Association; and be it further "RESOLVED, That said committee submit a report at the meeting of the Executive Board at Montreal."

Dr Munce moved for the adoption of his resolution. Conrad seconded the motion. In the discussion which followed, President Welch asked to be allowed to read a message which he had prepared for the Executive Board. Dr. Way asked Dr. Welch to read his message, which was as follows:

"To The Executive Board of the A. V. M. A. Greetings:—

In all times past the influence of the American Veterinary Medical Association has been directed towards the strengthening and betterment of all phases of Veterinary activities. Chiefly through its instrumentality, the standard of our schools has been gradually and materially elevated until at present they unquestionably compare very favorably with those of our sister profession of medicine, and so also, do our graduates of recent years.

To secure increased rank and social standing for the Army Veterinarian has likewise been one of our constant aims, and persistent efforts along that line have finally been fruitful of results. Furthermore, repeated efforts to secure adequate compensation for those of our profession who are employed in the Bureau of Animal Industry, while leaving much to be desired, have at least been productive of a bettering of their conditions.

There remains one phase of veterinary activity, representing fully 90% of our entire profession, the condition of which today demands that some definite policy of action be adopted by our Association, towards the righting of certain wrongs that are jeopardizing the interests and very subsistence of this very important branch of our profession. I have reference to the private practitioner, and cite as some of the injustices and indignities to which he seems obliged to submit, the following as examples:—

"The Federal and State Governments have, in many instances, usurped the right of tuberculin testing of cattle, thereby depriving him of that source of revenue, and a portion of the work in his locality which he is eminently qualified to perform.

a portion of the work in his locality which he is eminently qualified to perform.

"Tuberculin, hog cholera virus, anthrax and blackleg vaccines, as well as other viruses, dangerous in the hands of the incompetent, are permitted to be sold and distributed to the laity, thereby constituting a grave menace to the entire live stock industry, by virtue of taking the control of contagious and infectious diseases from the hands of the veterinarian, who is the only person qualified to cope with those problems intelligently, besides resulting in a considerable lessening of the income of the local practitioner in the territory where this is practiced.

"Again, there are certain schools in good standing in our Association that are said to accept tuition from students to educate them in the art and science of veterinary medicine, and at the same time are said to be guilty of giving instructions to farmers in the art of administration of certain of these vaccines. A dean of another veterinary college is also said to distribute hog cholera serum and virus to farmers.

"As matters stand at present, the future of our profession is in a very precarious condition. Without question, fully 95% of all students matriculating in our veterinary colleges, do so with the expectation of engaging in practice upon graduating. At the present time, with the prospect of county agent activities in the matter of hog cholera vaccination, even the most far-sighted of our profession cannot be peak a promising future for the practicitioner with any too great a certainty. As a result, our schools are practically empty, and will remain in this condition until such time as the field of the veterinarian is not unjustly encroached upon, and is definitely outlined by legislation. I consider that no question of greater importance has ever confronted our profession and upon its solution depends our future.

"You ask what can be done. I suggest that what we need first is a well-defined policy outlined, for which we will be able to secure the enthusiastic cooperation of every state veterinary association, as well as every individual constituting our profession. It should be dealt with as a national question, and the question of whether the eradication and control of contagious and infectious diseases are to be handled by veterinarians or whether we are to be hampered by the laity should be settled once and for all. A law governing the distribution of viruses would protect the stockman against his own ignorance and serve the needs of the veterinary profession. I ask that at this time you give earnest consideration to these matters, and if possible outline some definite plan of procedure, for which the entire profession can work as a unit.

Very sincerely, (Signed) W. H. Welch."

After considerable further discussion, which was entered into by all present, the motion to adopt Pres. Welch's resolution was carried.

Discussion then turned to the desirability of the Secretary attending as many of the winter meetings of the various state associations as possible, with the result that the Secretary was instructed to attend as many of these meetings as he could, and the hope was expressed that the President and Executive Board members would find it possible to attend those meetings which the Secretary found it impossible to attend.

The Secretary called attention to the plan which he had started at the Michigan-Ohio meeting, of having each State or local association appoint a committee as a clearing house for grievances, the same to be transmitted to the Secretary of the American Veterinary Medical Association for guidance in shaping the activity of the Association along lines most needed.

Treasurer Jacob rendered a report of the financial status of the Association up to December 2, 1922. This report showed that the total assets of the Association at that time amounted to \$43,111.74. The Secretary then asked for some instructions relative to the expenditure of the \$1000.00 which had been appropriated for publicity purposes. Attention was called to the fact that the original purpose for which this money had been appropriated was for general publicity through the agencies of the general press amd agricultural publications. Dr. Cotton called attention to the desirability of doing something that would attract and encourage young men to enter the veterinary profession.

The Secretary reported that he had made some plans for taking a veterinary census of North America, involving the compiling of a complete list of all veterinary graduates in the United States and Canada. He also called attention to the desirability of publishing a directory, including the Constitution and By-laws, in the near future, a matter that had been deferred the past year on account of the expenses. It was decided to defer this matter in view of the fact that the machinery had already been set in motion for making numerous changes in the Constitution and By-laws. The Secretary called attention to numerous requests received for an interpretation of our Code of Ethics. He suggested that the time had arrived when a more liberal interpretation was indicated, owing to the fact that no small number of veterinarians were now specializing along some particular line of practice and they desire to advertise their specialities in a way that would be unobjectionable and within the law, so far as the Code of Ethics was concerned.

The Secretary asked for further instructions relative to the lapel emblem, the design for which had been submitted and adopted at the St. Louis meeting. It was decided to order 1000 gold-filled emblems at the price quoted, these to be sold to the members at fifty cents each.

The next matter called to the attention of the Board by the Secretary, was an apparent error committed at the St. Louis meeting in rejecting the application of Dr. Sam. W. Wiest, of New Mexico, a graduate of the St. Joseph Veterinary College of the year 1919. This application had apparently been rejected for the reason that the St. Joseph Veterinary College was not recognized that year. Dr. Mayo had notified Dr. Wiest to this effect, and Dr. O. E. Troy, Resident Secretary of New Mexico, had called attention to the apparent error in declining membership to Dr. Wiest. Examination of the records seemed to substantiate the claim of Dr. Troy that an error had been committed, as the St. Joseph College was not discredited until the New Orleans meeting, December 1919, and Dr. Wiest, the applicant, had graduated from the institution in question the previous Spring. Dr. Cotton moved that the Executive Board recommend Dr. Wiest favorably to the Association at the Montreal meeting. The motion was seconded by Dr. Kiernan and carried. The Secretary was instructed to make the necessary explanations in connection with this case.

The next matter to which the Secretary directed attention was an apparent inaccuracy in the Proceedings relative to the disposition of the report of the Committee on Anatomical Nomenclature. The action of the Secretary, as shown in the correspondence with Dr. Sisson, Chairman of the Committee, was sustained.

Attention was directed to the action of the Board at the St. Louis meeting, in rescinding the previous action of the Board relative to members of the Association who did not desire to take the Journal. The Secretary was instructed from that time on, that all members must pay dues in full and take the Journal.

The Executive Board voted to provide the Secretary with a revolving fund of \$500.00, to take care of salaries of office assis-

tants, cash purchases, and various petty expenses.

The Secretary asked for instructions as to the disposition of his surety bond for \$5000.00 Chairman Way reported that he was in possession of the surety bond for \$25,000. covering the Treasurer, and that said bond was in his safety deposit vault in the Irving National Bank, New York City. Dr. Munce moved that the Chairman of the Executive Board be designated custodian of all surety bonds of the Association. The motion was seconded by Dr. Kiernan. Motion carried. After considerable discussion, Dr. Cotton moved that the Secretary file a bond for

an additional \$5000, making the total amount \$10,000, covering the three positions of Secretary, Editor and Business Manager of the Journal. The motion was seconded by Dr. Munce and carried.

Chairman Way called attention to the fact that no action had been taken with reference to the dates of the Montreal meeting. Dr. Kiernan stated that the dates had not been definitely fixed, but had been left to the Local Committee on Arrangements, and this committee was to advise the Executive Board later on. (The Executive Board decided to recommend to the Montreal veterinarians the following dates: August 27-28-29-30-31.) Pres. Welch reported that he would get in touch with the Montreal veterinarians relative to the formation of the Local Committee on Arrangements.

The meeting adjourned at 1:25 o'clock to reconvene as early as possible in the afternoon for a joint session with the Committee on Revision of the Constitution and By-laws.

FIRST JOINT SESSION OF EXECUTIVE BOARD AND REVISION COMMITTEE

The joint meeting of the Executive Board and the Committee on Revision of Constitution and By-laws was called to order at 2:40 o'clock, Chairman Way presiding. The following Executive Board members were present: Drs. Way, Munce, Kiernan, Cotton and Conrad; President Welch and Secretary Hoskins. The Committee on Revision was represented by Drs. J. H. McLeod, Chairman, C. A. Cary, A. T. Kinsley, W. M. Bell.—Absent, L. A. Merillat. Chairman McLeod reported that his committee had met that morning in pursuance of the request made by Ex-President Kinsley, at St. Louis. He reported that Dr. Mohler had found it necessary to resign from the committee, and that this vacancy had been filled by the appointment, by President Welch, of Dr. W. M. Bell, Nashville, Tenn.

For the Revision Committee, Dr. Kinsley presented the following recommendations:

- (a) That nominations for President be made from the floor at the regular annual meeting one year preceding the time of assuming office, and that the election be by mail ballot within sixty days after the nominations.
 - (b) That the names of the nominees for President be pub-

lished in the official Journal within thirty days after nominations are made.

- 2. That there be six Vice-Presidents, one from each District, nominated and elected in the same way as the President.
- 3. That the President and six Vice-Presidents be active members of the Executive Board.
- 4. That a committee of five on credentials be created, this committee to be appointed by the President. Each member of this committee shall hold office for five years, except the first committee appointed under this Constitution, one of which will serve for one year, one for two years, one for three years, one for four years and one for five years.

Dr. Kinsley reported for the Revision Committee that it did not seem feasible to make an entire revision at this time. but to recommend amendments which would give each member of the Association a voice in the election of officers: that it had also appeared advisable to the Committee to recommend increasing the personnel of the Executive Board, by adding seven members, who would serve for a short time, namely, one year. By such a plan, one-half of the Executive Board would be elected each year. The President and six Vice-Presidents would serve during their period of office as active members of the Executive Board, making a total of 14 members on the Board. Dr. Kinsley spoke in favor of the amendment, stating that he thought it would stimulate a great deal of interest in all those sections of the country from which there is a very small representation at any of the annual meetings. Dr. McLeod reported that the Revision Committee had received resolutions from the States of Missouri, Idaho, Colorado, Iowa and Oklahoma, asking that changes be made that would make the Associations more representative of the general body of veterinarians.

Dr. Munce called attention to the desirability of having some change made relative to the manner of election of Section officers. The Secretary also called attention to the loose way in which some of the Section elections had been held in the past, and pointed out the desirability of each member, upon registering at a meeting, identifying himself with some particular Section, as is done in the American Medical Association. Any such arrangement need not interfere with the man attending the meetings of any one of the three Sections, but it would

identify him as being most interested in some one of the three.

Dr. Cary called attention to the desirability of having the fiscal year very definitely defined, and Secretary asked for instructions in this connection, as to the exact time that a member would become delinquent on account of the non-payment of dues. It was agreed that those members who had not paid their dues for the year ending September 1, 1921, will have forfeited their membership in the Association thirty days after notification, a statement of the dues in arrears to be considered such notification.

The Secretary then presented a plan which would entirely change the present system of admitting new members. He called attention to the disadvantages of the present system, especially the great amount of detail work thrown upon the Executive Board at the time of the annual meeting, and the tendency for prospective members to delay applications for membership until just before the annual meeting. (The plan is crystalized in the proposed amendment to Section 6 of Article 2 of the Bylaws, on page 784).

Dr Cary then proposed that the Secretary take all of the suggestions and proposed changes and make a draft of them, which would be presented at a future session of the two committees, in order that the proposed amendments might be again discussed more intelligently, and unnecessary duplications and inconsistencies avoided, and this draft to be published in the Journal, so as to give the members an opportunity of studying proposed changes before the meeting in Montreal.

Chairman Way announced the following Committee on Policy:

Dr. T. E. Munce, Chairman

Dr. John R. Mohler

Dr. D. H. Udall

Dr. L. A. Merillat

Dr. C. E. Cotton

Dr. M. Jacob

Dr. W. H. Welch

Dr. H. P. Hoskins, Secretary

The meeting adjourned at 4:15 o'clock, to reconvene the following morning at 9.

Second Joint Session of Executive Board and Revision Committee

It was found impossible for the committee to meet at 9 o'clock on Wednesday, December 6, 1922, so the joint conference was not held until 5:30 o'clock. Present, Drs. Way, Munce, Kiernan, Cotton, Conrad and E. A. Watson (representing District No. 1), Secretary Hoskins, Drs. Bell, Cary, Kinsley and McLeod. The Secretary presented his draft of the proposed amendments to the Constitution and By-laws, as submitted by the Revision Committee, the day previously, and modified in joint session with the Executive Board. It was decided to take up these proposed amendments and discuss them seriatim. In the case of each proposed amendment, a motion was made, duly seconded and carried, that these amendments be embodied in the plan of revision of the Constitution and By-laws, to be submitted for consideration by the Association at the next annual meeting after having been published in the Journal. It was agreed by all present that it would be well to have the Secretary make a new draft of the proposed amendments and send a copy to each member of the Executive Board and the Revision Committee, for his approval, before publication in the Journal. The joint session adjourned at 8 o'clock.

Following are the amendments which will be offered at the Montreal meeting. This draft of the proposed changes has been approved by a majority of the members of the Executive Board and the Revision Committee. Such approval does not in any way mean that every member of both of these bodies approves every one of the proposed amendments. Approoval means only that the Secretary correctly interpreted and worded the recommendations of the Revision Committee in his draft of the proposed amendments to be published in the Journal.

CONSTITUTION

ARTICLE V-OFFICERS

Section 1 now reads as follows:

The officers of the Association shall consist of a President, five Vice-Presidents, a Secretary, a Treasurer and an Executive Board. With the exception of the Secretary and District members of the Executive Board, they shall be elected at the regular annual meeting and hold office for one year from the date of their election, or until their successors are elected and have assumed office. No person shall be eligible to the offices of President, Vice-President, Secretary or Treasurer unless he has been a member in good standing for the five years preceding his election.

Proposed to be amended to read as follows;

The Officers of the Association shall consist of the President, six Vice-Presidents, one of whom must be a resident of each Executive Board District, a Secretary and a Treasurer. No person shall be eligible to the offices of President, Vice-President, Secretary or Treasurer unless he has been a member in good standing for five years preceding his election.

VICE-PRESIDENTS

Section 3 now reads as follows:

In case of death or resignation of the President, or in case of his inability to perform the duties of his office from any cause, the same shall devolve upon the Vice-President, in seniority, for the remainder of the unexpired term, or until the disability shall be removed.

Proposed to be amended to read as follows:

In case of death or resignation of the President, or in case of his inability to perform the duties of his office from any cause, the presiding officer shall be selected by the Executive Board from the Vice-Presidents.

SECRETARY

Section 4 now reads as follows:

The Secretary shall perform all the clerical duties of the Association, and be the custodian of all its property except moneys and the properties of the official Journal office. The Secretary may also act as Editor or Business Manager, or both, of the official Journal when so recommended by the Executive Board, and approved by the Association. All moneys received by him shall be paid monthly to the Treasurer. He shall receive such salary and allowances as may be recommended by the Executive Board and approved by the Association.

He shall give bond to the Association in the sum of five thousand dollars (\$5,000), acceptable to the Executive Board. He shall present a written report at the regular annual meeting.

Proposed to be amended to read as follows:

The Secretary shall perform all the clerical duties of the Association, and be custodian of all its property, except money and surety bonds. The Secretary may also act as Editor or Business manager of the Journal or both. He shall give bond to the Association in a sum acceptable to the Executive Board. He shall present a written report at the regular annual meeting.

TREASURER

Section 5 now reads as follows:

The Treasurer shall account to the Association for all moneys received. He shall give bond to the Association in the sum of ten thousand dollars (\$10,000), acceptable to the Executive Board, At the expiration of his term of office he shall account for and turn over to his successor in office all moneys, vouchers and account books belonging to the Association.

The Treasurer shall pay out moneys only on vouchers countersigned by the President and Secretary, or President and Editor, excepting minor expenses of the Secretary, and such revolving fund allowances as may be placed at the disposal of the Editor and Manager of the Journal by the Budget Committee.

The Treasurer shall at the regular annual meeting present a written detailed report with vouchers covering all receipts and expenditures.

Proposed to be amended to read as follows:

The Treasurer shall be elected at the regular annual meeting, by ballot, and shall assume the duties of said office on the first day of January next succeeding his election, and shall continue in office for one year. He shall account to the Association for all moneys received. He shall give bond to the Association in a sum acceptable to the Executive Board. At the expiration of his term of office he shall account for and turn over to his successor in office all money, vouchers, and account books belonging to the Association.

The Treasurer shall pay out moneys only on vouchers countersigned by the President and Secretary, or president and Editor, excepting minor expenses of the Secretary, and such revolving fund allowances as may be placed at the disposal of the Editor and Manager of the Journal by the Budget Committee.

The Treasurer shall at the expiration of each fiscal year make a detailed statement, accompanied by vouchers, covering all receipts and expenditures to the Executive Board and the report shall be published in the official Journal.

EXECUTIVE BOARD

Section 7, A now reads as follows:

The Executive Board shall consist of seven members, one from each Executive Board district, and one member-at-large, and it shall elect annually its own chairman.

Proposed to be amended to read as follows:

The Executive Board shall consist of fourteen members, as follows:—The President, six Vice-Presidents, one member from each Executive Board district, as hereinafter provided, and one member-at-large. This Board shall annually elect its own chairman.

Section 7. B now reads as follows:

Each member of the Executive Board shall hold office for five years, except the district members first elected under this Constitution. Those first elected from the First, Second, Third, Fourth and Fifth Districts shall hold office respectively for one, two, three, four and five years from the date of election.

Proposed to be amended to read as follows:

Each member of the Executive Board shall hold office for five years, except the President and six Vice-Presidents, who shall hold office for one year. Section 7, E now reads as follows:

The Executive Board shall pass upon the eligibility of all candidates for membership and report their recommendations to the Association. Four members of the Executive Board shall constitute a quorum for the transaction of business.

Proposed to be amended to read as follows:

The Executive Board shall pass upon the eligibility of all applicants for membership except as hereinafter provided and report their recommendations to the Association. Eight members of the Executive Board shall constitute a quorum.

Section 7, H now reads as follows:

Accurate records shall be kept by the Secretary of the Association of all meetings of the Executive Board.

Proposed to be amended to read as follows:

The Secretary of the Association shall keep accurate records of all meetings of the Executive Board.

Section 7, M now reads as follows:

The Executive Board shall have the Journal accounts audited by a qualified accountant annually or oftener if deemed necessary, and submit annually to the Association a financial statement including inventory.

Proposed to be amended to read as follows:

The Executive Board shall have the accounts of the Secretary, the Editor and Business Manager of the Journal and the Treasurer, audited by a qualified ancountant annually or oftener if deemed necessary, and submit annually to the Association a financial statement including inventory.

VACANCIES AND REMOVALS

Section 9, third paragraph, now reads as follows:

Vacancies in the office of the Secretary or Treasurer shall be filled by appointment for the unexpired term by the President.

Proposed to be amended to read as follows:

A vacancy in the office of Treasurer shall be filled by appointment for the unexpired term, by the President.

Proposed that a paragraph be added to read as follows:

In the event of the absence of a member of the Executive Board at a regular or special meeting, the President may appoint a member to fill such vacancy, the temporary appointee, in each case, to be from the same district as the absentee.

EXECUTIVE BOARD MEETINGS

Section 10, third line, now reads as follows:

Special meetings may be called by the Secretary upon written request of five members of the Executive Board.

Proposed to be amended to read as follows:

Special meetings may be called by the Secretary upon written request of ten members of the Executive Board.

BY-LAWS

ARTICLE 2-APPLICATION FOR MEMBERSHIP.

Section 6 now reads as follows:

All candidates for membership reported to the Association by the Executive Board shall be ballotted upon and a three-fourths vote in the applicant's favor will entitle him to active membership.

Proposed to be amended to read as follows:

Applications for membership shall be made upon blanks furnished by the Association, in the handwriting of the applicant, and must be endorsed by two members of the Association in good standing, one of whom must be a resident of the state, province or territory in which the applicant resides. Applications must be accompanied by the membership fee of \$5.00 and dues pro rata for the balance of the fiscal year current, as stated on the application blank. Applications must be filed with the Secretary and be examined by him for correctness and completeness as far as available information will allow. After such approval by the Secretary, the latter will cause to be published in the official Journal, as soon thereafter as possible, said application with name and address of applicant, college and year of graduation, and names of vouchers. If no objections shall be filed with the Secretary, as against the applicant being admitted to membership in the Association, his name shall again be listed in the next issue of the Journal, and if no objections shall have been filed within thirty days after the second publication of the name of the applicant, he shall automatically become a member and shall be so enrolled by the Secretary, and membership card issued. If any objections be filed against any applicant, either on first or second notice, said application will be referred to the Executive Board for consideration.

ARTICLE 5-DUES

Section 1 now reads as follows:

There shall be an initiation fee of five dollars (\$5.00). The annual dues shall be five dollars (\$5.00), payable in advance on the first day of September. Honorary members shall pay no dues.

Proposed to be amended as follows:

Change word "September" to read "January".

ARTICLE 8-Nominations.

Section 1 now reads as follows:

Nominations for office, except as otherwise provided for, shall be made orally. A nominating speech shall not exceed two minutes and the nominations shall not be closed until every member present has had an opportunity to present his candidate.

Proposed that another section (2) be added to read as follows:

Nominations for President and Vice-President shall be made at the regular annual meeting, one year preceding the time of their assuming office. The names of the nominees for President and Vice-Presidents shall be published in the issue of the Journal following the regular annual meeting.

ARTICLE 9—ELECTION OF OFFICERS.

Section 1 now reads as follows:

A majority of all votes cast shall be necessary to elect. If no nominee receives a majority of the votes on the first ballot, the nominee who receives the lowest number of votes shall be dropped and a new ballot shall be taken, and so on until a nominee receives a majority.

(No change proposed). Section 2 now reads as follows:

The officers of the Association shall be elected at the afternoon session the second day of the annual meeting.

Proposed to be amended to read as follows:

The Treasurer and member-at-large of the Executive Board shall be elected at the afternoon session of the second day of the meeting.

Proposed that another section (3) be added to read as follows:

The President and six Vice-Presidents shall be elected by mail ballot. Within fifteen days after the publication of the names of the nominees in the Journal the Secretary shall mail a ballot to each member of the Association.

ARTICLE 11—INSTALLATION

Section 1 now reads as follows:

The officers of the Association shall assume their duties at the close of the annual meeting at which they are elected.

Proposed to be amended to read as follows:

The President and Vice-Presidents shall assume their duties at the close of the annual meeting following their election.

Proposed that another section (2) be added to read as follows:

The member-at-large of the Executive Board shall assume his duties at the close of the annual meeting at which he was elected.

ARTICLE 15—REGISTRATION

Section 1 now reads as follows:

No member may vote at a regular meeting until he has registered and paid his entire indebtedness to the Association.

Proposed to be amended to read as follows:

No member may vote at any election until he shall have paid his entire indebtedness to the Association.

Proposed that another section (2) be added to read as follows:

Each member shall designate to which section he wishes to be affiliated when registering at the annual meeting.

ARTICLE 17—STANDING COMMITTEES

Delete '6 Audit' from line 5. (This merely dispenses with an Audit Committee.)

EXECUTIVE BOARD ELECTION IN DISTRICT No. 1

The polls for nominations for Member of the Executive Board of the A. V. M. A. for District No. 1 (Canada) were closed on February 12, 1923. The names of thirteen different Canadian veterinarians appeared upon the nominating ballots. The five members standing at the head of the list, as shown by a careful count, were Drs. J. C. Hargrave, George Hilton, C. D. McGilvray, J. B. Still and E. A. Watson. These names were placed upon the election ballot, which was mailed to every member of the Association in District No. 1 who was in good standing on February, 12, 1923. Nominating ballots were examined and counted by a committee consisting of Drs. S. Brenton, E. P. Schaffter and H. Preston Hoskins, Secretary.

A number of the Quaker City Veterinarians take an active interest in the transactions of the Philadelphia Pathological Society. The December meeting of the Society was held at the University of Pennsylvania School of Veterinary Medicine, and the program included addresses on "Avian Tuberculosis", by Dr. Evan L. Stubbs, "Cow Pox", by Dr. Fred Boerner, and "The Life History of the Ascaris", by Dr. B. M. Underhill. All of the addresses were illustrated with lantern slides.

AMERICAN VETERINARY MEDICAL ASSOCIATION

Proceedings of Fifty-ninth Annual Meeting, St. Louis, Mo., August 28 to September 1, 1922

(Continued from the February Journal.)

TUESDAY MORNING, AUGUST 22, 1922

The first session of the Section on Sanitary Science and Police was called to order at nine-thirty o'clock by Dr. R. C. Reed, Chairman, of College Park, Md.

CHAIRMAN REED: The meeting will come to order. I will call upon the Secretary for his report.

(Dr. H. Preston Hoskins, of Detroit, Mich., presented the report of the Secretary, as follows:)

SECRETARY'S REPORT, ST. LOUIS, MO., AUGUST 28, 1922

H. Preston Hoskins, Detroit, Mich.

More difficulties were experienced this year in getting papers for the program than in any of the four previous years that I have served as secretary of the section. The reason for this is not apparent. Quite a considerable number of our members who have been regular attendants at sessions of this section, and who have consistently taken part in our programs, advised your secretary that they did not expect to attend the meeting or declined to contribute to the program for various reasons. Little success has attended our efforts to get the younger members interested, to the point of presenting

papers.

Before any definite plans for the program were made, early in the year, an effort was made to arrange a meeting of the section officers, so that the section programs might be discussed and the ground gone over, with a view to avoiding duplication of effort, getting better allocation of papers and subjects, and securing more attractive section programs. Experience gained from recent years pointed to the desirability of such a conference to get coordination of the section programs. This is particularly true of the Sections on Education and Research and Sanitary Science and Police, where there has been some tendency for programs to overlap. However, this is not to be construed as saying that the Section on General Practice should not be considered in any such plan. To make a long story short, it was found that the conference could not be held, as there were no funds available to defray the expenses of the section officers who would have to travel to attend such a conference. Therefore, it seems desirable to recommend that the Association make provision for doing this in the future.

In June, letters were sent to about seventy members of the Association interested in sanitary control work, asking for contributions or suggestions for the program. Replies were received from about one-third of those written. These replies clearly indicated that the subject of tuberculosis eradication, including tuberculin testing, is uppermost in the minds of a large number of our veterinarians, and there was a very evident desire upon their part to have various phases of the subject discussed, even though the ground has been covered so often at recent meetings of this Association, meetings of State and Sectional associations, tuberculosis conferences, short courses and other similar gatherings.

The proposal was made to have a session of this section on one of the two days when the clinics are being held in East St. Louis. This proposal was put up to the seventy members sent the letters before mentioned, for an

expression of opinion. Those in favor of the proposal out-numbered those opposed at least two to one, but upon more closely analyzing the replies, and weighing the pros and cons, it appeared that stronger arguments were put forth against the proposal than for it. On the whole, it appeared unwise to do anything that might detract from the interest in the clinics at East St. Louis, in view of the fact that the program was largely to be for the practitioners and that the meeting was really being built up around this idea.

Plans were made for the two sessions, as usual, and the papers promised divided into two groups. Examination of the official program shows that the second session of this section is scheduled for Friday afternoon, at 1:30 P. M., at a time when a general session is also scheduled. It might be well, before this session is adjourned, to decide whether the members wish to make any change in the program as printed. It is not quite clear how there could be a general session of the Association, simultaneously with sessions of the three sections, as scheduled for Friday afternoon.

Moved by Dr. Cahill that the Secretary's report be accepted. Motion seconded and carried.

CHAIRMAN REED: We will now hear the first address on our program this morning, "Observations on the So-Called Hog 'Flu'," by Drs. M. Dorset, C. N. McBryde and W. B. Niles, Biochemic Division, Bureau of Animal Industry, Washington, D. C.

(The paper was read by Dr. Niles. Paper and discussion published in Journal, November 1922, pp. 162-171.)

CHAIRMAN REED: We will take up the next paper, "Equine Infectious Anemia," by Captain R. A. Kelser, of the Army Medical School, Washington, D. C.

(Captain Kelser read his paper which was illustrated with numerous splendid lantern slides. Applause. Paper and discussion published in Journal, December 1922, pp. 319-331.)

CHAIRMAN REED: If there is no further discussion, we will take up the next paper on the program, which I think Captain Kelser has.

Captain Kelser: Mr. Chairman, if there is no objection, owing to the lateness of the hour and one more paper, I move that this paper be read by title and published; unless there is some particular reason for reading it, I move that it be read by title and published in the Journal.

Motion seconded by Dr. Cameron.

CHAIRMAN REED: It is moved and seconded that the third paper, "The Control of Equine Infectious Abortion in the U. S. Army," by Captains G. H. Koon and R. A. Kelser, Veterinary Corps, United States Army, be read by title and published in the proceedings. Are you ready for the question?

Question called, motion put and carried.

(Paper published in Journal, November 1922, pp. 193-196).

CHAIRMAN REED: We will pass on to the next paper, "The Value of Animal Experimentation to Veterinary Medicine," by Drs. J. G. Hardenbergh and S. D. Brimhall.

Dr. Hardenbergh: I am a little bit doubtful about presenting a paper of this character before this session. However, Dr. Hoskins was good enough to put me on this program and I hope you will bear with me for the few minutes that it will take to read this paper.

· (Dr Hardenbergh presented paper. Applause. Paper published in Journal, this issue, pp. 731-735.)

CHAIRMAN REED: This very interesting paper of Dr. Hardenbergh is now open for discussion. I do not know that it needs much discussion, as it has been very ably handled, but it is of great importance and is interesting to all of us. Has anyone anything to ask?

Dr. Hoskins: I have been asked to announce that the Ohio State University Alumni will have their dinner at six p.m. in Parlor "F"; and the University of Pennsylvania Alumni will meet at six o'clock this evening. They are requested to assemble in the lobby of this hotel at a quarter to six.

CHAIRMAN REED: Now gentlemen, before we close this session, as the Secretary mentioned in his report, it is up to you to decide whether we shall have the session which is now scheduled for Friday afternoon on some other morning or afternoon of the week, or whether it shall be left on the program as it is now scheduled. It seems rather an impossibility to schedule a general session of the whole Association and three sections at the same time.

Captain Kelser: I believe if there is another period where this Friday afternoon session can be placed, it would be the thing to do, rather than have the two sessions conflict. Possibly Dr. Hoskins is more familiar with the program, also these clinics, and may be able to suggest a period where this could be placed.

Dr. Hoskins: I really have no information on which to base a suggestion as to just what is the best thing to do. It would hinge, in part, upon what the other sections have decided to do, because they are in the same boat that we are. Dr. Kinsley has pushed the program of the general sessions ahead, so that they are considerably ahead of the schedule at the present time, and it may be that they can clean up things so that it would not be

necessary to have a general session on Friday afternoon, although that would be very unusual.

CHAIRMAN REED: I think it would be very unfortunate for a very large proportion of the interested workers in the Association to be absent from a general session which would have important business to bring up.

DR HOSKINS: Mr. Chairman, I believe it would be desirable to let the thing hang fire for the time being, and the officers of this section can get in communication with the officers of the other sections and decide on something and have it announced at a general session.

CHAIRMAN REED: That would be a solution of the problem and we will take it up on that plan.

Dr. Cameron: I move we adjourn.

Motion seconded by Captain Kelser and carried.

ADJOURNMENT

FRIDAY MORNING SEPTEMBER 1, 1922.

The second session convened at 8:45 o'clock, Dr. Reed presiding.

Chairman Reed: The meeting will come to order, please. The first and only paper that we will have this morning is by Dr. J. W. Connaway, of Columbia, Missouri. He needs no introduction. He will give us his paper on "Facts and Interpretations Relating to Infectious Abortion in Cattle and Swine".

(Dr. Connaway read his paper entitled, "Facts and Interpretations Relating to Infectious abortion in Cattle and Swine." Applause. Paper and discussion published in Journal, this issue, pp. 719-730.)

Chairman Reed: If there is no further discussion, we will proceed to the election of officers for the coming year, which is the last item on our program.

Are there any nominations for chairman of the section?

Dr. Kelser: I nominate the present incumbent, as Chairman of the Section on Sanitary Science and Police for the ensuing year.

Dr. Connaway: I second the nomination.

Dr. Kiernan: I move the nominations be closed.

The motion was seconded and carried.

Dr. Connaway: I move that the Secretary be instructed

to cast the unanimous vote of the Association for the present incumbent.

Dr. Hoskins being absent, Dr. Kiernan cast the ballot of the Association for Dr. Reed for Chairman.

Chairman Reed: Gentlemen, as I told you in the beginning I am not a speech-maker and I am not going to inflict one on you now, but I hope since I have had one year's experience in the Chair I will be able to do a little better next year than I did this. I promise you to put my heart and soul into the work, and do all possible for the Section, and this Section is a mighty important one.

The only other officer to be elected at this time is a secretary. Now, of course, our present secretary is automatically barred. He has done admirably for several years. We shall be obliged to give some one else a chance. Now, nominations are in order for the office of secretary.

Dr. Kiernan: Inasmuch as we are going to Canada for the meeting next year, I want to nominate Dr. Hall, of the Canadian force, as Secretary. He is on Dr. Torrance's force up there.

Dr. Connaway: I second it.

DR. HART: I move the nominations be closed.

The motion was seconded and carried.

Dr. Hart: I move the President cast the unanimous vote of the Association for Dr. Hall, of Canada.

The motion was seconded and carried,

Chairman Reed: The ballot is hereby cast. Dr. Hall is declared elected unanimously. So far as I know that concludes the work for this Section.

A motion to adjourn was seconded and carried.

ADJOURNMENT

Dr. R. C. Dayton, who has been engaged in general practice at Indiana, Pa., has accepted a position as dairy inspector with the Supplee-Wills-Jones Co., of Philadelphia, Pa. Dr. Dayton is stationed at Duncannon, Pa.

Dr. O. B. Morgan has removed from Rocky Ford, Colo., to Canton, Kan., where he has purchased the practice of Dr. F. H. Sharp.

OTHER MEETINGS

VETERINARY MEDICAL ASSOCIATION OF NEW YORK CITY

The regular monthly meeting of the Veterinary Medical Association of New York City was called to order by the President, Dr. Robt, S. MacKellar, in the New York Academy of Medicine, 17 West 43rd St., on Wednesday evening, December 6th. 1922, at 8:30 p.m. The minutes of the November meeting

were read and approved.

A round-table talk on "Rabies" was led by Dr. Geo. Goubeaud, who ably discussed and brought out many excellent points in arriving at a correct diagnosis of this dread disease. He pointed out the immense services veterinarians may perform in conserving public health by advocating the vaccination of all dogs against rabies. He said the Department of Health was considering passing an ordinance making the vaccination against rabies of all dogs, in New York, a section of the Sanitary Code. Drs. Slawson, Berns, Chase, Miller, Rohrer, Major Jewell and others joined in a general discussion.

Dr. Berns proposed the following resolution:

Whereas, many of our members report the gratifying results of immunizing

dogs against rabies by vaccination, be it
RESOLVED, that this Association fully endorse this method and firmly believe that it would be greatly to the interest of public health if the vaccination of all dogs against rabies was made compulsory, and be it further RESOLVED, that a copy of this resolution be sent to the New York Depart-

ment of Health for its consideration.

This resolution was duly seconded and carried.

Dr. Raymond J. Garbutt was unanimously elected to become a member of this association.

The amending of Section 1, Article 8, of our by-laws, making the annual dues \$5.00, payable in advance, as proposed at our last meeting, the necessary two-weeks notice having been given the members, was taken up for final action and was passed unanimously.

Dr. Chase moved that we hold our meeting in the New York Academy of Medicine, as the best located and most accessible to the great majority of our members. This was seconded and carried.

This being the annual meeting, the reports of all committees and election of officers were in order.

The Chairman, Dr. Reid Blair, of the Program Committee, being absent, Dr. Berns reported progress. Dr. McKinney, Chairman of the Prosecuting Committee, reported progress. The accounts of the Secretary-Treasurer, having been audited by the Auditing Committee, showed a balance in the treasury.

The election of officers for the ensuing year then took place, and resulted as follows:—Dr. J. Elliott Crawford was unanimously elected President. Dr. Bruce Blair was unanimously elected Vice-President. Dr. C. G. Rohrer was unanimously elected Secretary-Treasurer.

The following five members were unanimously elected to serve as Censors:—Dr. Chas. E. Clayton, Chairman; Dr. Geo. J. Goubeaud, Dr. Wm. J. McKinney, Dr. E. A. Durner, and Dr. Alex. Slawson.

A vote of thanks was extended to Dr. Goubeaud. Meeting adjourned..

J. ELLIOTT CRAWFORD, Secretary

DELAWARE VETERINARY MEDICAL ASSOCIATION AND UNIVERSITY OF DELAWARE VETERINARY CONFERENCE

The Association held its annual meeting in conjunction with the University of Delaware Veterinary Conference on December 21, 1922.

Dean C. A. McCue, of the Agricultural School, welcomed the guests to the University. He talked on the growth of the live stock industry in the state and the relation of the veterinarian to this important branch of agriculture. Of special interest to the members present was the news of the rapid progress being made within the State in the swine, dairy and poultry industries. Dean McCue stated that Delaware is the only State east of the corn belt producing an excess of corn, and that it is the extension policy of the University to advocate the feeding of corn to swine, rather than exporting this crop. He further stated that the poultry industry in the State is growing by leaps and bounds and with this growth there is arising both a need and a demand for investigational work on poultry-raising problems and especially those of a disease nature.

Dr. C. C. Palmer, of the Department of Animal Industry, discussed the work of this Department, especially with reference to the research being done in animal diseases. The members were keenly interested in the feeding experiments conducted on swine and the rations that were found practical for Delaware herds.

Drs. F. P. Ruhl, of Milford, and H. McDaniel, of Dover, led the round-table discussion on poultry diseases. Dr. Palmer gave a resume of the poultry diseases studied at the laboratory and Prof. H. R. Baker demonstrated the method of collecting a blood sample for conducting an agglutination test for white diarrhea. Dr. L. Levinson, of Middletown, told of the value to be derived from intestinal antiseptics in treating poultry diseases.

The question of veterinary fees was dealt with in considerable detail, the discussion being led by Drs. Ruhl and Eves. The consensus of opinion seemed to be that the question of fees is largely a local matter and is best determined by the individual

practitioner and governed by local conditions.

Dr. R. O. Biltz, of Georgetown, recently appointed field man for the State Board of Agriculture, on Tuberculosis Eradication, gave a talk on Tuberculosis Control work in the Lower Counties.

Dr. M. L. Zurkow, B. A. I. Veterinarian in charge of Hog Cholera Control, scheduled to talk on Hog Cholera, was unable to attend the Conference. His place was taken by Dr. Ruhl, who

talked of his experiences in vaccinating swine.

The Association voted to hold its annual meeting in conjunction with the University Conference. New Association officers elected were President, Dr. Harry McDaniel, Dover; Secretary-Treasurer, Dr. C. C. Palmer, Newark; Members of the Executive Committee, Drs. Ruhl of Milford, McDowell of Middletown and Eves of Wilmington.

Dr. Ruhl invited the Association to hold its summer meeting at Rehoboth, Delaware's leading ocean resort, as his guests. The invitation was accepted.

C. C. PALMER, Secretary.

VETERINARY PRACTITIONERS' WEEK, UNIVERSITY OF CALIFORNIA

The recent Veterinary Practitioners' Week, held at the University Farm at Davis, California, January 2 to 5, 1923, was a very successful meeting. There was a larger attendance than at any of the short courses which have been held annually since the year 1916. One-hundred and forty-five men were registered. As there are about three hundred active veterinarians in California, this is considered a very good representation.

Doctor W. E. Muldoon, of Kansas, and Doctors A. Eichhorn

and J. F. DeVine, of New York, were the principal lecturers at the course.

Doctor Muldoon touched on a variety of topics which his wide experience enabled him to handle in a very successful manner. His discussion of the subject of general therapeutics with the lecture on the external and internal 'administration of drugs was timely and enlightening, and was the first time this subject has been presented at the short courses. His operation of intestinal anastomosis and gastrotomy in the dog were skillfully performed and brought out new facts to a majority of the veterinarians as to the best method of performing these operations. His lecture on lameness in the horse and the surgical clinic on the horse were of great interest to a great majority of the attending veterinarians. Despite the reduction in horse practice, all the men not specializing in small animal practice still have a considerable amount of work on the diseases of horses.

Doctor DeVine's lectures on the diagnosis of pregnancy and treatment of sterility in the cow and mare were especially well received. Given in his very practical style, the practicing veterinarian obtained a maximum benefit and the discussions that took place were entered into by a high percentage of the practitioners and extended beyond the regular allotted time for the work. In his final lecture on business methods in practice, its organization and management, a masterful presentation of this subject was given and his closing remarks will undoubtedly long be remembered by the California veterinarians.

Doctor Eichhorn's opening lecture on rabies, its prevention and control, touched a problem of great importance in a number of sections of California at this time and was of great value in clearing up mooted questions regarding this disease which the practitioners and officials have been repeatedly facing for the past year in this state. His observations on the veterinary profession in Europe during his recent extensive travel through that country brought down to the minute the latest research in all of the major infectious diseases of animals. In the lecture on biological methods for the control of anthrax, a subject of annual importance to the live stock interests of California, Doctor Eichhorn discussed in a clear and forceful manner some recent developments and the newer ideas in regard to the many questions covering the exact method of treatment and procedure of handling this disease.

On account of the attention given to small animal practice the men engaged in this work were well represented and the symposium given during the first evening, under the direction of Dr. Muldoon, assisted by Drs. O. A. Longley, O. J. Kron, W. A. Boucher, and D. F. Fox, practicing veterinarians of California, brought out facts of importance in this field.

One afternoon was devoted to matters coming under the supervision of the State Bureau of Animal Industry. The subject of uniformity of methods of tuberculin-testing, by Dr. J. P. Iverson, Chief of the State Bureau of Animal Industry, and the policies and methods of enforcing the State dairy law, by Dr. J. Frey, with a similar talk by Dr. M. Rosenberger, on enforcing the meat inspection law, followed by a discussion of the influence of diet on swine diseases, by Dr. Robert Jay, the Federal cooperating agent, together with a moving picture, "Exit Ascaris," from the United States Bureau of Animal Industry, gave the practicing veterinarians an insight into the work of the official veterinarians of this state.

The latest work on "Red Water" was presented by Drs. E. Records and L. R. Vawter, of Nevada. This disease continues to be a baffling problem and is a matter of equal importance to California and Nevada.

A special lecture on estrous cycle studies and the relationship of diet to fertilization, covering extensive nutritional work done by Drs. Evans and Bishop, of the Division of Anatomy, of the University of California Medical School, was one of the features of the program. The work of these scientists has attracted national attention and while it has been largely confined to the white rat, it has clearly opened the possibility of interest and application to the breeding difficulties of all domestic animals.

During one evening the members of the Division of Veterinary Science occupied the time with a symposium on infectious abortion, followed by a discussion by Drs. DeVine and Eichhorn.

The meeting closed Friday afternoon, with surgical operations on the horse by Dr. Muldoon, assisted by Drs. McKenna and Carr, and there was a general feeling that the practitioners had been well repaid for attending the course and that they were greatly indebted to the visiting lecturers who contributed so much to the success of the week.

MISSISSIPPI STATE VETERINARY MEDICAL ASSOCIATION

The seventeenth annual meeting of the Mississippi State Veterinary Medical Association was held in the City Hall, Clarksdale, Miss., January 8th and 9th, 1923. The meeting was called to order by the President, Dr. J. A. Barger, at 9 a.m. The President then introduced Rev. Macon C. Vick, who delivered the opening invocation.

In the absence of Hon. L. C. Franklin, Dr. Wm. L. Gates made the address of welcome. Dr. Tait Butler, of Memphis, Tenn., followed with the response and gave the Association some very wholesome advice on the requirements necessary for the veterinarian of the future to be successful. He cited the fact that the tractor and automobile are here to stay, both in the city and in the country, and the veterinarian of the future must be a man of broader understanding and be equal to the members of other professions socially, intellectually and culturally. Following Dr. Butler, an excellent paper on "Glanders" was presented by Dr. M. J. Luster, of Clarksdale, which was well gotten up and well received by the Association. Those taking part in the discussion of this paper were Drs. D. F. Luckey and E. H. Berry.

The paper prepared by Dr. N. S. Mayo, on "The Flavines", was read by the secretary. A short discussion followed this paper and upon motion by Dr. Gates the Association directed the Secretary to write Dr. Mayo and thank him for his excellent paper. The subject of "Black Tongue" in dogs was presented by Dr. O. M. Norton, of Greenville, and brought out quite a lively discussion.

The afternoon session was opened by Dr. C. G. Stallworth, who gave a short address on Veterinary Publicity. Following this the Association had the pleasure of hearing Dr. L. A. Merillat discuss "The Horse Situation in America." He urged the profession to stand by the horse, because this animal, more than any one thing, made the veterinary profession. Dr. J. T. Alston read a well prepared paper on "Cattle Practice" which was followed by a short discussion.

In the absence of Dr. C. E. Salsbery, Dr. L. A. Merillat conducted the round-table discussion, which covered the following subjects: "Swamp Fever", by Dr. O. M. Norton; "Laminitis", by Dr. F. J. Douglass; "Tests for Tuberculosis", by Dr. D. F. Luckey. Drs. Drach and Wilson also made some remarks on the tuberculin tests. The prevalence of intestinal parasites in

the South was discussed by Dr. Tait Butler, and the "Status of Tick Eradication in Mississippi", by Drs. J. A. Barger and H. Chadwick. Dr. I. W. Edwards followed the round-table discussion with a talk on "Foot Troubles in Horses and Mules", the cause of which he attributes to ground infection.

The banquet held at the Alcazar Hotel at 8 p.m., was featured by an illustrated lecture by Dr. D. F. Luckey, of the St. Louis Live Stock Exchange.

Tuesday morning a general clinic was held at the hospital of Dr. W. L. Gates. Dr. L. A. Merillat performed several interesting operations on large animals, the most important of which was the roaring operation on a large mule. Drs. J. A. Beavers, O. M. Norton, E. S. Norton, F. J. Douglass, W. L. Gates and others took part in the clinic. Dr. A. C. Drach, of Omaha, Nebraska, made three post-mortems on virus pigs, which made a very interesting demonstration of the lesions produced by hog cholera virus.

The election of officers resulted in Dr. I. W. Edwards, of Vicksburg, Miss., being elected President; Dr. John Oliver, Columbus, Miss., 1st Vice-President; Dr. G. B. Bradshaw, Hattiesburg, Miss., 2nd Vice-President; and Dr. H. L. Fry, Jackson, Miss., Secretary-Treasurer. Grenada was selected for the next meeting, to be held January 1924.

H. L. FRY, Secretary-Treasurer.

WASHINGTON POST-GRADUATE COURSE FOR VETERINARIANS

A post-graduate course for veterinarians was offered by the College of Veterinary Science of the State College of Washington, at Pullman, January 9 to 12, 1923. The three-day program proved to be of great interest to the veterinarians of the Northwest, due largely to the fact that the principal lecturers were Dr. John F. DeVine, Goshen, N. Y., and Dr. Adolph Eichhorn, Pearl River, N. Y. In addition to these nationally prominent veterinarians, the program was well sustained by prominent local veterinarians of the Northwest, including Dr. H. A. Trippeer, Walla Walla; Dr. Peter Mackintosh, Yakima; Dr. L. C. Pelton, Deputy Commissioner of Dairy and Livestock for the State of Washington; Dr. A. R. Galbraith, Garfield; Dr. Otto Menig, Pullman; and Mr. J. L. St. John, Experiment Station Chemist, of Pullman.

Among the topics which were given a prominent place in the

lectures were the "Physiology and Anatomy of the Generative Organs of the Male and Female," "Abortion Disease in Cattle," "Results of Abortion Disease on the Maternal Genital Organs," "Abortion and Sterility in the Mare as Compared with that in the Cow," "Digestive Ailments of the Mother and Calf," "Demonstrations of the Method of Manipulating the Genital Organs of the Cow in the Treatment of Sterility." "Forage Poisoning in Animals," "Recent Developments in Nutrition," "Hepatic Cirrhosis (Walking Disease) in Horses," "Environment as Affecting Animal Health," and "The Prevention and Control of Rabies" also received attention.

The meeting was attended by forty veterinarians from the States of Washington, Oregon and Idaho and British Columbia. At the dinner given the last evening of the Course, talks were heard from representatives of these three States and British Columbia, all expressing their appreciation of the great good that this post-graduate course is doing for the veterinarians of the Northwest. Resolutions were passed, expressing the approval of the entire group and asking that, if possible, the Course should be given annually in the future.

E. E. WEGNER, Dean.

MINNESOTA STATE VETERINARY MEDICAL ASSOCIATION

The twenty-sixth annual meeting of the Minnesota State Veterinary Medical Association was held at the Radisson Hotel, Minneapolis, Wednesday and Thursday, January 10th and 11th, 1923. The meeting was very well attended, approximately one hundred and seventy-five (175) veterinarians being registered.

The meeting was opened with the address of the President, Dr. W. L. Boyd, who spoke on the "Signs of the Times in Veterinary Medicine." Dr. Earl A. Hewitt, of University Farm, gave a comprehensive report on "Veterinary Education." Dr. J. P. Foster, of Minneapolis, reported for the Committee on Surgery. Dr. Foster read a paper in this connection, on the use of atropine and morphine for anesthetic purposes in small animals, this to be added to, as needed, by ether. Dr. F. L. Ober, of Duluth, read the report of the Committee on Medicine. Dr. W. A. Anderson, of Sleepy Eye, reported for the Stallion Registration Board.

Eight new members were voted in. The program as given below was carried out. In addition, on Wednesday evening, Dr. C. B. Shore, of Lake City, who is connected with the Rest Island Silver Fox Co., gave a very interesting talk on the fox industry, and showed a film giving the important points in "The Raising of Silver Fox." Dr Shore pointed out that the fox industry was assuming great importance, and that fur farming in general was becoming a profitable industry.

PROGRAM

Business Methods in the Practice of Veterinary Medicine, Dr. J. N. Gould, Worthington, Minn.

The Differential Diagnosis of Cattle Diseases that Resemble each other Clinically, Dr. R. R. Dykstra, Manhattan, Kans.

Some of the Pitfalls and Mistakes as they Occur in Practice, Dr. J. X. Parent, Foley, Minnesota.

Address of Welcome, Mr. Geo. E. Leach, Mayor, Minneapolis, Minn.

Response for the Association, Dr. L. Hay, Faribault, Minn.

Address—The Relation between Livestock Husbandry and Veterinary Medicine, Senator H. H. Bonniwell, Hutchinson, Minn.

The Present Status of Knowledge Concerning Bovine Infectious Abortion, Dr. C. P. Fitch, St. Paul, Minn.

The Use of Glandular Extracts in Veterinary Medicine, Dr. J. F. Shigley, St. Paul, Minn.

Some Practical Points in Horse Practice, Dr. W. H. Welch, Lexington, Ill.

Diseases Affecting Small Pigs, Dr. A. T. Kinsley, Kansas City, Mo.

Rickets and Related Bone Diseases (Illustrated), Professor L. S. Palmer, University Farm, St. Paul.

Milk and Dairy Inspection from the Standpoint of the Practitioner of Veterinary Medicine, Dr. Cassius Way, New York City.

Following Dr. Way's paper, a discussion took place in regard to a bill before the Legislature, on the use of hog cholera virus by the farmer. It was felt by the profession that it was unwise to allow the distribution of hog cholera virus to the farmer. A committee was appointed to confer with the Agricultural Committee of the Senate and House in respect to this matter. Dr. D. B. Palmer, of Minneapolis, was appointed Chairman of this committee.

The following officers were elected for the ensuing year: R. J. Coffeen, Stillwater, President; R. L. West, Waseca, 1st Vice-

President; B. L. Cook, Farmington, 2nd Vice-President; C. P. Fitch, University Farm, St. Paul, Secretary-Treasurer. Board of Trustees: R. J. Coffeen, Stillwater; C. A. Nelson, Brainerd; Harry Evenson, Sacred Heart; D. I. Remington, Tracy; C. P. Fitch, University Farm.

C. P. FITCH, Secretary.

THE VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY

The thirty-ninth annual meeting of the Veterinary Medical Association of New Jersey was held in the Stacy Trent Hotel, Trenton, N. J., Thursday, January 11th, President H. H. Bair presiding.

The roll-call showed a very good attendance, more numerous than the previous year. The Committee on Securing Enrollment in the O. R. C. of the U. S. Army urged more members to join, as the State has not filled her quota to date.

A communication from the Blue Cross Society caused considerable controversy. It was decided by a large, majority vote to take no action on this communication, the consensus of opinion seeming to be that veterinarians, being trained men of high standing, were capable of judging the advisability of anesthesia in each individual case. To form an anesthesia committee, or to urge legislation of this nature, would seem an action reflecting upon their ability and finer sense of feeling and sympathy with dumb animals.

Dr. William J. Lentz, Director of Small Animal Clinic, University of Pennsylvania, gave an excellent talk on "Canine Distemper." Among his remarks were the following excellent points:

"We are all much in the dark regarding the cause, and therefore regarding treatment.

"It is impossible to reproduce it by direct inoculation.

"The use of the term "distemper" is too general; we may have several diseases, or perhaps several forms, such as: (1) snuffles in puppies, or catarrhal fever; (2) contagious infections, bronchial catarrh, or 'kennel disease,' affecting all dogs of any age; (3) paratyphoid or enteric fever; (4) typhus, or 'Stuttgart' disease." Dr. Lentz outlined a thorough course of treatment for each variety of the disease, or each disease separately, as he is inclined to regard them.

Dr. F. A. Laird, State Veterinarian of Illinois, gave an excel-

lent talk on "Botulism." This proved to be a subject the doctors in the entire State are much interested in, and caused a great amount of discussion, due to the prevalent sporadic outbreaks, both in horses and chickens.

Dr. F. S. Jones, of the Rockefeller Institute for Medical Research, gave an illustrated talk on "Pneumonia in Cattle." This lecture was of more than local interest. It seems to be a disease carried by cattle shipped into New Jersey. Native cattle contract the disease when they come into direct contact with shipped cattle. Calves may carry it for years. Actual outbreaks have been recorded after a lapse of two years.

The annual dinner was enjoyed by all.

The following officers were elected for the year 1923: President, Dr. J. W. Haffer, of Paterson; 1st Vice-President, Dr. Peter Runyon, of Freehold; 2nd Vice-President, Dr. A. W. Smith, of Orange; Secretary, Dr. P. B. Silvester, of Princeton; Treasurer, Dr. H. Ticehurst, of Tenafly.

The thirty-ninth semi-annual meeting will be held at Asbury Park, July 12 and 13th, with headquarters at the Hotel Marlborough.

P. B. SILVESTER, Secretary.

THE FIFTEENTH ANNUAL CONFERENCE FOR VET-ERINARIANS AT CORNELL UNIVERSITY

The following program expresses concisely the character of the crowded two-day session held at the N. Y. State Veterinary College, January 11 and 12.

- 9:00 Veterinary Education in the United States, V. A. Moore.
- 9:15 Present Status of So-called Cotton-seed Poisoning, S. A. Goldberg. Discussed by L. A. Maynard, College of Agriculture.
- 10:00 The Rate of Passage of Food through the Digestive Tract, P. A. Fish.
- 10:45 Anatomy of Reproductive Organs, G. S. Hopkins.
- 11:30 Lead-poisoning in Calves, F. W. Andrews, Mt. Kisco, N. Y.
- 12:15 Intestinal Parasites of Small Animals, H. J. Milks.
 - 1:00 Luncheon.
- 2:00 Influence of the Male in the Spread of Genital Infections (Illustrated), W. L. Williams.
- 2:45 The Relation of Colostrum to Immunity of Newborn Calves, J. Traum, University of California.

3:30 Septicemia Hemorrhagica with Special Reference to Cattle, E. A. Cahill, Indianapolis, Ind. Septicemia Hemorrhagica in Swine, J. W. Benner. Discussion by W. A. Hagan, E. V. Moore, G. E. Jorgenson, A. M. Mills.

Department of Physiology.

Demonstrations with dark-field microscope:—chylomicrons in the blood, galactomicrons in milk, spermatomicrons in semen.

Department of Anatomy.

Anatomical Specimens of Reproductive Organs of Cattle.

2:30 Department of Medicine.

Demonstrations. Medical Building.

- Physical Examination of Vagina and Cervix of Cow.
- (2) Methods of Intravenous Injection of Drugs.

3:00 Farriery.

Demonstrations in Shoeing for Different Forms of Lameness.

2:30 Small Animal Building.

Demonstration of Intestinal Parasites in Dogs with Diagnosis and Treatment.

- 3:00 Small Animal Clinic.
- 3:00 Surgical Clinic, Large Animal Operating Room.

Demonstrations.

- (1) Passing of Stomach Tube in Cattle.
- (2) Dressing of Cases.

3:00 Veterinary Experiment Station.

Demonstrations in Medical Building.

- (1) Methods of Confining Hogs.
- (2) Specimens of Hog Cholera Lesions.
- 8:00 Address of Welcome, President Farrand.
- 8:30 Veterinarians in the Days of the Romans, Prof. C. L.. Durham.
- 9:15 American Veterinary Medical Association, H. Preston Hoskins, Detroit, Mich.
- 9:30 Smoker, Veterinary College.

Friday, January, 12, 1923.

- 9:00 Natural and Artificial Immunity of Young Pigs to Hog Cholera, R. R. Birch.
- 9:30 Luxation of Coxo-femoral Articulation, J. N. Frost and Earl Sunderville.
- 10:00 Recent Developments in the Control of Animal Diseases, D. H. Udall.
- 10:30 Veterinary Inspection of Dairies Required by New York City, J. E. Thompson, New York City Board of Health.
- 11:15 Municipal Dairy and Meat Inspection, E. L. Volgenau, Buffalo, N. Y. Discussion opened by W G. Hollingworth, Utica, N. Y.
- 12:15 Alumni Meetings. Demonstrations.
- 2:00 In James Law Hall, Second Floor, North Wing.

Department of Pathology and Bacteriology.

- (1) Demonstrations of Arterio-sclerosis.
- (2) Brain Lesions and Inflammation of Joints.
- (3) Manufacture of Tuberculin and some Common Parasites of Animals.
- 6:30 Informal Dinner at Ithaca Hotel.
 - The Veterinary Practitioner in Animal Disease Control in New York, D. W. McLaury, Department of Farms and Markets, Albany, N. Y.
 - Private Practitioners in Tuberculosis Eradication, Chas. Linch, Department of Farms and Markets, Albany, N. Y.
 - The Disposition of Tuberculin Reacting Cows and their Milk, J. Traum.
 - New York State Veterinary Medical Association, W. Reid Blair, New York, N. Y.

Space will not permit of detailed comment on all of the papers further than to state that each was listened to with evident interest. It was apparently the purpose of the program to supply a variety of instructional, practical, economic and live topics that would benefit the practitioner and keep him in touch with the latest developments in matters pertaining to his profession.

Dean Moore, in his opening address on Veterinary Eduction in the United States, stressed some of the problems that confront the profession and live stock interests of the country. He gave statistics showing the decreased attendance at the veterinary schools, the alarming drop in the number of graduates since the war, referred to some of the probable causes and emphasized strongly the fact that the need for trained veterinary service was never greater than at the present time.

The paper of Dr. Milks, on Intestinal Parasites of Small Animals, was ably discussed by Dr. F. H. Miller, of New York, who from his long, extensive and varied experience added information of much value to the points brought out by Dr. Milks.

The papers at the afternoon session by Doctors Williams, Traum, Cahill and Benner, in addition to their educational worth, contained much of practical value to the listeners. The discussion on septicemia hemorrhagica was lively and participated in by many of the audience. As the disease exists in New York State, it apparently presents numerous difficulties in diagnosis and treatment. It was made clear that much more effort is needed to solve the obscure problems standing in the way of a complete understanding of the disorder.

At the evening session President Farrand, of the University, extended a cordial address of welcome. He spoke of the importance of veterinary work to the economic interests of the country; the high ideals that point toward success and the value of honest service.

Professor Durham, of the Latin Department, in a most interesting manner, touched upon some of the early superstitions pertaining to the veterinary art and pointed out that in ancient times there was a distinct recognition of veterinary service and that the trials and vicissitudes of the *mulo-medicus* were not unlike those of the veterinarian of today. His translations from the works of Vegetius, of the fourth century, showed that this writer possessed high ideals and a keen appreciation of ethics, which present leaders in the profession might do well to emulate.

Dr. Hoskins, the newly appointed Secretary and Editor of the JOURNAL of the A. V. M. A., discussed in a frank and open way the present situation of the Association. The effort to strengthen the practitioners' influence must come from themselves. He urged that all who were eligible should join and participate in the benefits that would result. He asked for assistance and co-operation, promising on his part the maximum of effort to bring about the success so earnestly desired.

In opening his paper Dr. Udall referred to politics as one of the "Recent Developments in the Control of Animal Diseases." He then presented considerable statistical and therapeutic information relative to a number of interesting cases encountered in the ambulatory clinic.

On account of the absence of the author, Mr. Daugherty, of the New York City Board of Health, presented Mr. Thompson's paper on "Veterinary Inspection of Dairies Required by New York City."

This paper brought out a lively discussion which was participated in by many of the veterinarians and representatives of the Board. The resulting effect seemed to indicate that the atmosphere had been cleared to some extent and that numerous difficulties were in a fair way of being solved by a more complete understanding of the issues involved.

After a light luncheon at the College, in order to conserve time, the remainder of the afternoon was devoted to the various demonstrations and exhibits which had been arranged. The final session of the Conference was held at an informal evening dinner at the Ithaca Hotel. President Blair, after some preliminary remarks on the State Veterinary Society, gave a highly interesting address upon the zoological ancestors of the domesticated animals.

Mr. McLaury, of the Department of Farms and Markets, urged community breeding and the use of better animals and stated that 8000 out of 25000 reactors had been tested by practitioners. He expressed a desire to cooperate with the practitioners. Dr. Linch pointed out that the 20 official veterinarians in the State were unable to cope with the situation and implied that the services of 300 practitioners on the accredited list might be invoked.

Commissioner Pyrke, of the Department of Farms and Markets, spoke frankly of the difficulties which confronted him on assuming office 18 months ago, and of difficulties which remained. He expressed some degree of optimism as to the result and hoped that by next year one third of the cattle in the state would be under supervision. Doctors Moore and Udall took part in the discussion and championed the cause of the practitioners.

Dr. Traum, of the University of California, closed the session with an interesting account of how tuberculin-reacting cows and their milk were disposed of in California.

IOWA VETERINARY ASSOCIATION

The thirty-fifth annual meeting of the Iowa Veterinary Association, held at Des Moines, Jan. 16-18, was thought by all attending to be one of the best meetings ever held. An attendance of over 400, together with the keen interest taken in the papers and discussions, made it successful. Visitors remarked that this meeting was the largest they had attended in any state. The practitioners took a very active part in the program. The Veterinary Division of Iowa State College, at Ames, gave a one-day short course for practitioners, which was a sort of supplementary clinic to the meeting.

In his President's address, Dr. E. A. Buxton, of Vinton, Ia., referred to the present situation of the Iowa veterinarians as regards the hog cholera serum and virus law, and he pointed out the importance of the practitioner as an economic factor in the welfare of the live stock industry of the State, which represents \$337,753,000. Dr. W. H. Welch, President of the American Veterinary Medical Association, addressed the convention on "The Horse" and he also spoke of some of the encouraging things the A. V. M. A. is planning on doing for the practitioner. The Fees Committee worked out a system of fees which was recommended as a guide and submitted to the Association.

Many good papers were presented concerning such subjects as forage poisoning of cattle, milk and dairy inspection, purpura hemorrhagica, technic in the use of local anesthetics, veterinary advertising, violations of the veterinary practice and live stock sanitary laws, bovine tuberculosis, poultry diseases, care of poultry, caponizing and swine diseases.

Dr. W. B. Niles, of the B. A. I., gave a very interesting talk on "Some Observations on Swine Diseases." Dr. C. P. Fitch, of the University of Minnesota, presented the subject of "the Presemt Status of Abortion Disease," in his usual forceful and instructive way. "Veterinary Conditions in Europe" was the title of an interesting talk by Dr. Adolph Eichhorn. A lecture illustrated by stereopticon and motion pictures, on "The Prevention of Live Stock Losses in Transit," was given by Dr. W. J. Embree, of Chicago. A wonderful picture entitled, "The Horse in Action," followed a splendid talk by Dr. L. A. Merillat on the horse situation. "Hormone Therapy" was presented by Dr. J. F. Shigley, of St. Paul, who brought out some of the experimental data on gland preparations.

The newly elected officers are as follows: President, Dr. John Patterson; First Vice-President, Dr. N. E. Gubser; Second Vice-President, J. C. Glen; Secretary-Treasurer, Dr. E. R. Steel; Executive Board (three years) Dr. J. S. Potter; (two years) Dr. R. J. Laird.

E. R. Steel, Secretary-Treasurer.

IOWA CONFERENCE FOR VETERINARIANS

The eighth annual Conference for Veterinarians was held at Ames, Iowa, Friday, January 19, 1923.

For the last three years these conferences have been given over largely to demonstration clinics and this year's program was presented in that manner. Dean Stange gave the visitors a cordial welcome in his opening remarks and presided over the meeting throughout the day.

The program started with the presentation of three live topics by Dr. W. F. Guard, viz: otitis media in animals, technique for the use of local anaesthetics, and an improved technique for the operation of umbilical hernia in male pigs. The subjects were all illustrated by carefully prepared specimens which showed exactly the structures involved and the methods used.

The subject of the cause, symptoms, diagnosis and treatment of otitis media in animals, as worked out by Dr. Guard during the last year, we believe, is a new contribution to veterinary literature and is of considerable economic importance. While it seems to be most common in swine, it has been diagnosed and treated in calves, dogs and cats. The technique for the use of local anaesthetics and for the hernia operation is the result of much careful study and holds the secrets for the success of the operations.

This was followed by a discussion of caponizing and a demonstration of the operation by Dr. John Patterson, of Hedrick, Iowa. Some good specimens of capons and slips were on exhibition and some of the birds were autopsied to show the position of the structures. The whole demonstration was most interesting and practical.

Just before noon, Dr. C. E. Juhl, of Osage, Iowa, demonstrated the use of the stomach tube in swine to the entire satisfaction, and one might well say, the amazement of those in attendance.

In the afternoon all assembled at the Pathology Laboratory,

where Dr. E. A. Benbrook, Head of the Department of Pathology, and members of his department demonstrated equipment and methods used in milk and food inspection work. Much interest was shown in this important phase of veterinary activity. Over two hundred cities and towns in Iowa now have some system of milk inspection.

Following this Professor H. A. Bittenbender, Head of Poultry Husbandry, lectured upon the various breeds of poultry, exhibited types, and demonstrated judging and culling poultry. Finally Dr. Chas. Murray and members of his department presented the subject of diseases of poultry and showed symptoms and lesions of the more common ones to be dealt with by the practitioner.

About two hundred practitioners were present and the interest in the day's work was greater than ever before. Many expressed the desire for a longer course or for more frequent courses. These courses are provided for by a special fund and the Veterinary faculty is anxious to provide what the practitioners of the state feel to be their greatest need.

H. E. Bemis, Chairman, Practitioners' Course Committee.

KANSAS VETERINARY MEDICAL ASSOCIATION

The nineteenth annual meeting of the Kansas Veterinary Medical Association was held at Topeka, January 16-17, 1923. Headquarters were established at the Throop Hotel, and the program was given at the Chamber of Commerce rooms, with the exception of a clinic, which was put on in the Live Stock Pavillion, Kansas Free Fair grounds.

The program for the first day consisted of a number of addresses, literary numbers and discussions. The annual dinner was given at 6:30 in the spacious dining-room of the Chamber of Commerce, where nearly two hundred veterinarians, their ladies and guests partook of a good feed. This was followed by several able after-dinner speakers, members of the State Legislature and others.

The audience was then nicely entertained with special numbers by the Boys' Industrial School, the local Eastern Star ladies and Mrs. Maude Castren, of Topeka. Dr. J. H. Burt was the able toastmaster for the occasion. The tables and chairs were then pushed aside and the balance of the evening spent in dancing. The forenoon of the second day was devoted to the reports of committees, election of officers, and reading and discussion of literary numbers. A splendid clinic was held in the afternoon, with an abundance and variety of material in charge of Drs. Young, Noller and Graefe, of Topeka.

At the election of officers the following were chosen for the ensuing year: Dr. S. L. Stewart, Olathe, President; Dr. I. J. Pierson, Lawrence, Sec'y-Treas.; Dr. Sam Hayes, Hutchinson, Member Executive Committee.

The Association will meet next January, at Manhattan, in the new \$100,000 clinic building which is now under construction at the Kansas State Agricultural College and which will be dedicated about that time.

That this was the best meeting held in years was the sentiment expressed freely by those in attendance. Much credit for this is due the veterinarians of Topeka and vicinity, who early organized themselves into a temporary organization and with untiring efforts spared no means to help the officers in preparing and carrying out the program.

I. J. Pierson, Secretary-Treasurer

COLORADO VETERINARY MEDICAL ASSOCIATION

The twentieth annual meeting of the Colorado Veterinary Medical Association which was held in Denver, January 17th and 18th, 1923, during the week of the National Western Stock Show, both in point of attendance and interest exhibited, seemed to augur well for the future of the profession in the State.

The report of the Legislative Committee was of special interest because the Legislature was then in session. Dr. Chas. G. Lamb, Chairman of the Committee, reported that a bill had been presented, having for its object the continuation of the cooperation between the State and the Federal Bureau of Animal Industry, in the eradication of tuberculosis. This bill provided only one important new feature, which was that special provision was made for area work. The bill asked for an appropriation of \$75,000. Dr. Lamb also stated that a bill had been introduced, providing for abolishing the State Board of Veterinary Examiners. This bill was the outgrowth of a fight between an unlicensed practitioner and the State Board, which has been carried on for several years. It does not seem

probable at this time that it can receive any serious consideration at the hands of the Legislature.

The election of officers resulted as follows: C. C. Stewart, President; W. G. Blake, First Vice-President; F. F. Mendenhall, Second Vice-President; I. E. Newsom, Secretary-Treasurer; Executive Committee: W. B. McGuire, A. G. Wadleigh, Geo. H. Carr.

Dr. Geo. W. Stiles, Jr., Pathologist for the B. A. I., at Denver, read a paper in which he discussed the "Awns of Grasses as a Source of Loss in Livestock." He described particularly the three-awned grass, and some damages which it had caused in sheep, cattle and mules. He stated that not only did these awns get into the mouth, interfering with mastication, in the eyes, interfering with sight, and in the skin, but he also found the awns in the lungs, which set up a fatal pneumonia.

Dr. Floyd Cross, Assistant Pathologist at the Colorado Experiment Station, discussed some of the losses in feeding lambs, which had engaged the attention of the Station. He described a typical outbreak of hemorrhagic septicemia in which the bipolar organism was isolated from 32 out of 34 sheep examined. He went on from this to state that hemorrhagic septicemia usually appeared within the first two weeks after the lambs were placed in the lots, and that any outbreak of disease coming at a later period was most probably due to some other condition.

Dr. Cross stated that in the district around Fort Collins, where about a million sheep are fed each winter, the chief loss this past year had been from overeating of corn, these losses usually appearing well along in the feeding period, and when the animals are getting from a pound to a pound and a half of corn. On reduction of the grain ration, these losses were easily controlled, but it might prove difficult to fatten the lambs in the time desired, and still keep free from death loss. He also outlined two other diseases which had caused considerable trouble, but for which no adequate cause had been discovered. These were a profuse scouring, sometimes seen when lambs were first brought in and a pneumonia from which the bipolar organism could not be isolated.

"Interpretation of the Intradermal Test" was discussed by Dr. E. N. Stout, who has been doing the accredited herd work for the B. A. I., within the State. Dr. Stout described the needle which he uses, and also the method of administration of

the tuberculin. He said that any circumscribed hard nodule above "pea-size" was quite certain to indicate a positive reaction. There were, however, certain diffuse swellings of dough-like consistency that proved somewhat troublesome. It sometimes occurred, that while no considerable swelling could be determined by palpation, yet on examination of the two folds, the injected side would be found to be somewhat thicker than the other. Generally speaking, he thought these should be considered negative reactions. He found that such reactions were more common when it was necessary to make more than one puncture with the needle.

A resume of the last meeting of the U. S. Livestock Sanitary Association was given by Dr. Geo. H. Glover. Case reports were detailed by Drs. W. G. Blake, and Geo. W. Dickey.

Dr. Geo. H. Carr, of Brighton, gave a talk on the subject of "How Pure-Bred Pigs Pay." He stated that he had many clients who were unable, on their own initiative, to buy purebred pigs, but who really wanted to get into the pure-bred business. In such cases it is his custom to furnish them with a sow pig and the services of one of his own boars, for which he would retain title to the pig furnished and one of each litter produced. In this way he found that he not only increased his income. through the sale of pigs, but that he greatly assisted the community in raising a better class of hogs, and also increased his own practice, because clients were much more apt to call a veterinarian for a pure-bred animal than they would for a grade. It might be added that Dr. Carr has been particularly successful in aligning himself with the various breed associations in his county, thereby increasing the pure-bred livestock of the district, and incidentally his own services to the community.

Prof. C. I. Bray, Associate Professor of Animal Husbandry at the Colorado Agricultural College, discussed "The Importance of Mineral Matter in Preventing Disease." This paper was an excellent presentation of the whole subject of deficiency of minerals, in lessening the productivity and the resistance to disease, of the domesticated animals. He not only considered mineral deficiency in its relation to rickets, osteomalacia and osteoporosis, but also in its relation to pig paralysis, abortion, sterility and many other maladies. This paper was an excellent presentation of our knowledge on this new phase of animal nutrition.

Director Elmore Peterson, of the Extension Service of the University of Colorado, gave an excellent address on "The Business Side of a Profession." This was a very timely topic, inasmuch as veterinarians have found it especially necessary to pay more attention to the business side of their activities, because of the lessened ability of the farmer to pay for veterinary services. Prof. Peterson did not attempt to go into the details of the profession of a veterinarian, but rather outlined the broad principles of a professional business. He defined business as an exchange of commodities for a mutual profit, stressing especially the word mutual. He said that unless there were mutual profits, no business could continue.

Prof. Peterson also stated that the newer idea of salesmanship was not to sell goods but was to assist the buyer in purchasing. He stated that there was a wide difference between these two attitudes. He maintained that a veterinarian must be a salesman, no less than a clerk in a dry-goods store, but that his activities were necessarily conducted in a different manner. He stressed advertising as being quite essential to any profession, although he realized that professional advertising was done along quite different lines from that of the usual mercantile business.

Among the things which the speaker said a professional man should legitimately do in order to advertise, were to pay special attention to his own personal appearance, to his vehicle and to his office or hospital. He also pointed out that a professional man should align himself with all the agencies in his community, which tended to community betterment, and in this way could engage very effectively in legitimate advertising. Altogether his address put professional business upon a high and dignified plane and made a considerable impression upon those present.

"Corpus Luteum" was discussed by Dr. H. E. Kingman, Surgeon in the Veterinary School at the Colorado Agricultural College. Deviating from the usual plan, he neither read a paper nor made a talk, but gave each one present a chance to ask a question, the only limitation being that it should have some relation to the corpus luteum. The announcement that this was to be done was made some time previous to the discussion of the subject, so that each one present was prepared with his question. These questions he took up one by one and answered concisely and to the point. Altogether it seemed probable that more real information was gotten to the veterin-

arians present in this way than could have been done by the usual method, although it is realized that this method has its limitations.

Dr. I. E. Newsom, Pathologist at the Colorado Experiment Station, summarized the recent work on Contagious Abortion, particularly in its relation to the control of the disease on the range. He discussed the experiments which the Station has under way, with a view to controlling abortion in range animals. The two chief factors which were emphasized were the isolation of heifers, particularly during the winter time, when on feed, and the use of a live organism vaccine, preferably on those animals that had not aborted.

I. E. Newsom, Secretary-Treasurer.

OKLAHOMA VETERINARY MEDICAL ASSOCIATION

The regular semi-annual meeting of the Oklahoma Veterinary Medical Association was held in Oklahoma City, January 18 and 19. Dr. L. B. Barker was elected secretary to fill out the unexpired term of Dr. T. O. Booth.

Dr. Guberlet, of the A. & M. College, at Stillwater, presented a very interesting and instructive paper on Poultry Diseases. The subjects of coccidiosis, aspergillosis, the various forms of food poisoning and roup, in chickens, were thoroughly discussed. A general discussion of swine diseases, led by President Mead, was enjoyed by all members present.

Dr. R. C. Moore, of St. Joseph, Missouri, addressed the meeting on equine practice. Dr. Moore emphasized the fact that the draft horse is again becoming an important factor in transportation and deplored the tendency on the part of the veterinarian to neglect this important part of practice more and more. Dr. Moore gave a very interesting description of the radical operation for fistula and poll-evil.

Federal Tuberculosis Eradication was presented by Dr. L. J. Allen, Inspector in Charge, for the Bureau of Animal Industry. Dr. Allen read the amended rules and regulations of both the B. A. I. and the U. S. Live Stock Sanitary Association. Dr. E. V. Robnett, State Veterinarian, gave a detailed review of the State's activities in tuberculosis eradication in the past year and outlined plans for conducting the work for the coming year.

Professor Smith, of the A. & M. College, presented an excel-

lent paper on practical poultry breeding and management. Resolutions were passed indorsing the pending legislation to appropriate funds for a veterinary college, to be established in connection with the A. & M. College, at Stillwater. A luncheon at the Huckins Hotel and the presentation of the Bureau's educational film, "Out of the Shadows," at one of the local theatres, were enjoyed by all members present.

C. H. FAUKS, Acting Secretary.

WISCONSIN SHORT COURSE FOR VETERINARIANS

The first Short Course for Veterinarians of Wisconsin was held at the State University, on January 24, 25 and 26. It was given cooperatively by the Wisconsin Veterinary Medical Association and the Department of Veterinary Science of the College of Agriculture. If the interest shown by those who attended is an index, it certainly was a decided success.

Laboratory and demonstrational work was largely substituted for the usual type of program consisting of formal papers and lectures. This innovation made it possible for those in attendance to perform certain experiments themselves, and to learn first-hand about some of the newly discovered facts relative to the causes and control of animal diseases. For example, each man took lung tissue from an animal, experimentally infected with ascaris larvae, and placed it between two glass plates; then he examined it with the aid of a microscope and found the living, writhing, lung stage of this destructive animal parasite.

Those who helped to conduct this Short Course were Doctors C. H. Covault, Veterinary Division, Iowa State College, Ames, Iowa, who told the Wisconsin veterinarians how the men in Iowa were meeting the present situation; H. B. Raffensperger, Zoological Division, Bureau of Animal Industry, who presented the subject of "Ascariasis in Swine;" J. G. Hardenbergh, The Mayo Clinic, Rochester, Minn., who demonstrated a new method of anesthetizing small animals; W. J. Embree, Live Stock Inspection Department of the Western Weighing and Inspection Bureau, Chicago, Illinois, who gave an illustrated lecture on "The Prevention of Live Stock Loss in Transit;" and J. A. Kiernan, Tuberculosis Eradication Division, Bureau of Animal Industry, Washington, D. C., who addressed the meeting on "Testing for Re-accreditation and Interstate Shipment."



Some of the attendants at the First Short Course for Veterinarians of Wisconsin, held at the University of Wisconsin, Madison, January 24-25-26, 1923.

In cooperation with Drs. Hadley and Beach, the following members of the Agricultural College faculty also assisted, by presenting interesting and instructive subjects: A. S. Alexander, "Live Stock Breeding in Scotland" (Illustrated); B. L. Warwick, "The Fur Farming Possibilities in Wisconsin;" R. S. Hulce, "Scoring and Judging Dairy Cattle;" F. B. Morrison, "Feeding Minerals to Live Stock;" W. H. Wright, "Laboratory Diagnosis" (Practicum); L. J. Cole, "The Recognition and Cause of the Free-martin;" and E. S. Savage, "Rations for Dairy Cattle." Many of the best known veterinarians of the state led the discussions.

Dr. Herbert Lothe, of Waukesha, presented a well-prepared paper entitled, "Interesting Cases Met in Practice." which brought out some splendid discussions on bovine practice. Dr. Alexander also held a conference with the veterinarians present to discuss the question of "Soundness of Stallions."

Dr. H. Preston Hoskins, Secretary-Editor of the American Veterinary Medical Association, was present on the afternoon of the 24th, and addressed the Short Course on "What the A. V. M. A. Can Do for the Practitioner." He outlined the program of work that had been laid out for him by the officers and executive board, asked for support of the Journal, and incidentally suggested that the Wisconsin veterinarians should not stop with just one invitation for the Association to meet in Madison. He brought out the point that it had rarely happened that any city had landed a convention without asking for it more than once, Montreal being the only exception, for some mysterious reason.

The newly elected officers of the Wisconsin Veterinary Medical Association are G. H. Harland, Pewaukee, President; C. A. Deadman, Madison, Vice-President; O. H. Eliason, Madison, Secretary; W. L. Richards, Morrisonville, Treasurer.

O. H. ELIASON, Secretary.

OHIO STATE VETERINARY MEDICAL ASSOCIATION

The fortieth annual meeting of the Ohio State Veterinary Medical Association was held at Columbus, Ohio, January 31st, February 1st and 2nd, 1923. All of the sessions of the meeting were largely attended, and in many respects the meeting was the best ever held. Harmony and optimism prevailed throughout.

The Wednesday afternoon session was devoted largely to routine business, and many excellent committee reports were presented. Worthy of special mention, were the reports of the Committee on Progress and Education, presented by Dr. S. T. Pyper, of Dayton, and the Committee on Diseases, presented by Dr. Earl W. Porter, of Reynoldsburg.

The entire day Thursday was devoted to the presentation and

discussion of papers as follows:

"Obstruction of Small Intestines of the Horse," P. T. Engard, Marysville. Discussion by W. A. Axby and J. H. Blattenburg. "Mastitis," E. C. Eddy, Cleveland. Discussion by A. J. Kline and R. H. Aull.

"Gastro-Enteritis in Small Animals," J. W. Jackman, Columbus. Discussion by L. W. Goss and Norton Dock.

"Digestive Disorders in the Hog. Dietetics," C. R. Niday, Gallipolis. Discussion by F. A. Zimmer and Leo Anderson.

"The Control and Treatment of Poultry Diseases that are Prevalent in Ohio," Alvin Broerman, Reynoldsburg. Discussion by O. V. Brumley and R. E. Rebrassier.

"Panters," C. B. Frederick, Canton. Discussion by F. E. Anderson and W. F. Wise.

"Remarks on the Stomach of the Ox (Illustrated)," Septimus Sisson, Columbus. Discussion by C. H. Case and R. A. Greenwood.

"Skin Diseases of the Dog," W. C. Woodruff, Cleveland. Discussion by Reuben Nilty and Howard Miller.

"Chloroform as an Anaesthetic for Swine," E. A. Downs, Mt. Sterling. Discussion by D. J. Frame and W. E. Jones.

"Avian Diphtheria (Roup)," H. P. Ropp, Ashland. Discussion open.

A banquet was held Thursday evening at the Hotel Deshler. The following speakers were called upon:

"Quo Vadis," Davis S. White, Columbus.

"Greetings from the A. V. M. A." W. H. Welch, President, Lexington, Ill.

"The Breeding of Animals," Carl W. Gay, Director Department of Animal Husbandry, O. S. U.

"Publicity," J. A. Maddox, General Agent Missouri Life Insurance Company, Columbus.

"Cooperation," Chas. V. Truax, Director of Agriculture.

"Daddy" Welch, President of the American Veterinary Medical Association, made quite a hit with our membership, and in addition to giving an excellent address, he boosted the Montreal meeting strongly and effectively.

On Friday, an all-day clinic was held at the Veterinary Department, Ohio State University. The clinic was in charge of Dr. O. V. Brumley, and was divided into five sections as follows:

Section on Horse, in charge of Dr. W. A. Axby, Harrison.

Section on Cattle, in charge of Dr. C. H. Case, Akron.

Section on Small Animals, in charge of Dr. W. R. Hobbs, Columbus.

Section on Hog, in charge of Dr. C. W. Fogle, Leipsic.

Section on Poultry, in charge of Dr. L. W. Goss, Columbus.

The clinic proved very attractive to the membership and was very successful in every respect.

The following officers were elected for the ensuing year: Drs. Chas. W. Fogle, President, Leipsic; Bruce H. Edgington, Vice-President, Columbus; David C. Hyde, Treasurer, Columbus; Harry T. Moss, Secretary, Dayton.

We shall very probably not hold any more annual meetings at the same time as "Farmers Week" in Columbus, on account of the congestion.

F. A. LAMBERT, Secretary.

MICHIGAN STATE VETERINARY MEDICAL ASSOCIATION

The usual brand of Michigan winter weather did not prevent the Wolverine veterinarians from attending the 41st annual meeting of the Michigan State Veterinary Medical Association, at Lansing, Michigan, February 6th and 7th. 1923. All of the sessions were held at the Michigan Agricultural College, at East Lansing. The morning session of the first day was devoted to the usual routine business. In his presidential address, Dr. J. E. Wurm, of Pigeon, called attention to some of the more important problems which the veterinary profession was being called upon to solve. Dr. Wurm not only showed a keen sense of diagnosis, but demonstrated his ability along the line of practical treatment, by outlining a number of corrective measures for the consideration of the Association.

The afternoon session was opened with an illustrated paper on the subject of "Vitamins and Deficiency Diseases," given by Dr. A. D. Emmett, of Detroit. The ladies attended this lecture and showed their deep interest in the subject of nutrition, by the attention given the essayist.

Dr. J. F. Shigley, of St. Paul, Minn., addressed the Association on the subject of "Hormone Therapy." He stressed the fact that some of the glandular disorders of the human being are probably duplicated in animals, and that some of them might be amenable to treatment with extracts of certain glands in proper combination.

Dr. E. J. McLachlan, of the Department of Public Health, Jackson, Mich., presented a paper on "Municipal Milk Inspection." He called attention to the increased interest being taken by many municipalities in this work, and urged veterinarians to take a prominent part in urging the passage of milk inspection ordinances, wherever same do not exist.

Dr. H. Preston Hoskins, Secretary-Editor of the American Veterinary Medical Association, was on the program to talk on "Our National Association." He briefly reviewed what had been accomplished during the past few months in getting the new office organized and the various lines of work under way. He called attention to the fact that the officers of the Association, as well as the members of the Executive Board, were keenly aware of the dangers of the present situation as regards the present and future welfare of the veterinarian in private practice. At the same time, he called attention to the fact that the membership of the Association was made up of veterinarians engaged in a score or more lines of work; that the Association did not exist for any one particular group, and this fact must be kept in mind at all times.

Dr. Hoskins urged the support of the national Association by all state and local associations, as well as by all veterinarians individually. He asked for better support of the Journal, particularly from men in active practice, calling attention to the fact that one of the criticisms most frequently heard regarding the Journal, was that it did not publish sufficient matter of interest to the practitioner. Dr. Hoskins stated that this had not been the fault of former editors, but the fault lay with the practitioners themselves, as these men were the ones to furnish case and clinical reports, and with very few exceptions, they had failed to do so.

The annual Dinner Dance was held in the evening at the Masonic Temple, and after partaking of a splendid banquet, the veterinarians and ladies spent the rest of the evening dancing and playing cards.

On Wednesday, the morning session was opened with an address by Dr. F. E. Stiles, of Battle Creek, on the subject of "The Treatment of Stomach Worms in Sheep." Dr. Stiles has given a great deal of attention to sheep diseases, and he had developed the technique for the administration of copper sulphate solution, to a point where he can treat 100 lambs per hour with little difficulty. Dr Stiles mentioned one particular lot of lambs that he had treated. These lambs had done so well that the owner showed them at the recent live stock show, in Detroit, where they took first prize, and were sold for 25c per pound. This fact had been given a great deal of publicity in the neighborhood, and as a result, Dr. Stiles reported a very marked increase in the demands made upon him for similar services.

Hon, H. W. Norton, Director of the State Bureau of Animal Industry, Lansing, outlined the proposed tuberculosis program for the State. Briefly, this involves reducing present indemnities by adopting the Federal plan, which provides an indemnity equal to one-third of the difference between the salvage and appraised value, but not to exceed \$50.00 for a registered animal or \$25.00 for a grade animal; an emergency appropriation of \$200,000 for indemnities for the balance of the present fiscal year; the inauguration of a five-year campaign, starting July 1, 1923, to test all cattle in the State, as well as conducting all re-tests required in the Federal Accredited Area Plan; providing \$400,000 annually for indemnities, and \$120,000 annually for operating expenses of the Bureau of Animal Industry; enacting legislation to authorize county boards of supervisors to appropriate funds for the purpose of co-operating with the State and Federal governments in eradicating bovine tuberculosis, at the same time making compulsory the testing of all herds in such counties.

Dr. H. J. Stafseth presented the subject of "Differential Diagnosis of Poultry Diseases." This was followed by a question box conducted by Dr. H. M. Gohn. Some twenty applications for membership were favorably acted upon. An amendment to the Constitution was adopted, whereby the annual meeting of the Association will be held the latter part of June, instead of in February, as heretofore.

Dr. S. Brenton, of Detroit, was appointed to represent the

veterinarians on the Committee on Bovine Tuberculosis Eradication.

The four living charter members of the Association, Drs. S. Brenton, H. H. Clement, J. A. Dell and J. C. Whitney, were made life members of the Association.

Dr. Judson Black fittingly eulogized Dr. David Cumming, whose death recently occurred.

A motion prevailed for the present officers of the Association to hold over until the June meeting, in view of the amendment passed, changing the date of the annual meeting.

R. A. Runnells, Secretary-Treasurer

SOUTH CAROLINA ASSOCIATION OF VETERINARIANS

The annual business session of the South Carolina Association of Veterinarians was held at the Jefferson Hotel, in Columbia, on January 22, 1923. The meeting was called to order at 4 p.m., and a large crowd assembled to discuss many subjects of interest to the veterinarians of the South. A banquet was held at 8 p.m. and this was followed by an election of officers for the coming year, which are as follows:—Dr. W. K. Magill, of Chester, President; Dr. T. J. Kinard, of Ninety-six, Vice-President; Dr. M. R. Blackstock, of Spartanburg, Secretary-Treasurer.

The next meeting will be held in Chester, July 1923.

M. R. Blackstock, Secretary-Treasurer

THE VALUE OF A GOOD NAME

For some months the New Orleans Item canvassed the State with a view of finding out just "who's who" in Louisiana, both living and dead. In the vote taken two Baton Rouge citizens were honored, Col. T. D. Boyd and Dr. W. H. Dalrymple. Governor Parker, who was generally selected as the most renowned living son of Louisiana, in his selection of the five greatest living men of the state, named Dr. Dalrymple as one of the five.

If the vote was taken only among Baton Rougeans, who have known Dr. Dalrymple all of his life, we have no hesitation in stating that Governor Parker's selection would be unanimously endorsed.

We do not know of any man who has worked more zealously for the good of others, than has Dr. Dalrymple. His life has not been one of getting but of giving.

—Baton Rouge Sunday News.

COMMUNICATIONS

A PERSIAN TABBY (?)

TO THE EDITOR:-

While reading a case report in the November, 1922, number of the London Veterinary Journal by an English veterinarian, the following expression was noted:"—pretty Silver Persian tabby".

It is difficult to understand how a Silver Persian cat can be designated a tabby. It appears that it would be just as safe to use the expression "a beautiful thoroughbred collie". It is presumed that the author intended the word "tabby" to designate the sex, but it has no relationship whatever to sex, referring rather to a combination of colors in the coat of fur.

Respectfully,

E. I. SMITH.

Nashville, Tenn., January 17, 1923.

DR. GOODMAN IMPROVED

TO THE SECRETARY:-

With further reference to your inquiry under date of January 23, 1923 regarding the present condition of Dr. B. M. Goodman and his circumstances, please be advised that I visited Dr. Goodman at the residence of his parents, 3441 Hallwood Place, Cincinnati, Ohio, found him much improved in health and showing a gain of about fifteen pounds in weight since I last saw him. He ascribes this favorable change to a new treatment for diabetes consisting of injections of insulin. He seems to be very much encouraged with the improvement in his condition and believes that he will be able to do remunerative work in about a month.

In regard to his finances Dr. Goodman said that his relatives were very good to him but that he himself was without funds to pay for treatments which cost about \$12.00 per week. He is very grateful for what our association has already done for him. I am sure that any further financial assistance that may be given Dr. Goodman will be in conformity with the purpose for which the relief fund has been created and will be gratefully appreciated by the recipient.

Yours very truly,

FRANK JELEN.

Cincinnati, Ohio, February 9, 1923.

NECROLOGY

"Man that is born of woman is of few days and full of trouble. He cometh forth like a flower, and is cut down, he fleeth also as a shadow, and continueth not."

EDWARD HORSTMAN

Dr. Edward Horstman, a veterinary inspector in the Bureau of Animal Industry, died from carcinoma of the liver, on the afternoon of December 3, 1922, at the All Saints Hospital, Fort Worth, Texas. On December 5th he was buried in Mt. Olivet Cemetery, at Fort Worth, with Masonic honors.

He was born in Cincinnati, Ohio, June 7, 1868, and graduated from the Cincinnati Veterinary College in 1908. He immediately entered the service of the Bureau of Animal Industry, which he served faithfully without any interruption until the time of his death. Dr. Horstman was stationed several years at Natchez, Mississippi, supervising tick eradication work in that section; during the interim he met Miss Esther Foster and they were married February 13, 1913 at the First Presbyterian Church in Memphis, Tenn. Later on he was stationed at other important points in Mississippi and subsequently in Louisiana, Georgia and Texas.

Dr. Horstman was a member of the American Veterinary Medical Association and the Masonic Fraternity. He was a student and well-posted on matters pertaining to veterinary medicine. He was a good speaker, a splendid writer and kept himself well-informed on current issues of the day. All through his service with the Government he was sincere and ambitious to perform his duties fearlessly and in a manner which displayed a conscientious spirit. He was an indefatigable worker and gave close attention to details. He was always trustworthy, never shirking a duty, and when his intrepid soul took its flight to God the Bureau lost a loyal and tireless employe. He was a man of pleasing personality, cordial and kindly to those who came in contact with him. His many friends who had occasion to visit his home were always received with a warm welcome and entertained with a degree of hospitality which will be long and pleasurably remembered.

Dr. Horstman had a thorough knowledge of southern conditions and understood all the phases of field work. He liked the South and frequently expressed a desire to remain always in Dixie. And now, amid the familiar scenes of his activities, our lamented friend sleeps—silent, still, and unmolested, in the land of perpetual sunshine, with the stars of Heaven as his nightly vigils, there to await the dawn of the resurrection morn. He has been summoned from his labors in this vale of tears, to commence a new service where peace reigns supreme on the other side of the Great Divide. May his dreamless dust rest peacefully beneath the green, to await the final call to join the Caravan Eternal.

E. I. S.

CHARLES H. HOWARD

Dr. Charles H. Howard was born on Amherst Island, near Kingston, Ontario, Canada, June 9, 1868. His early life was spent on a farm, but later desiring to study veterinary medicine, he attended and graduated from the McKillip Veterinary College in the year 1899. After securing his diploma, Dr. Howard practiced for a while at Gladwin, Michigan, later going to Coldwater, at which place, on Sept. 21, 1904, he was united in marriage to Miss Emma Stevens, who died May 17, 1921. To this union was born a daughter, Ethel Elizabeth, now 16 years of age.

In the fall of 1906, the family moved to Houghton, Mich., where Dr. Howard resided at the time of his death, June 9, 1922. Dr. Howard died on his birthday, being 54 years of age the day of his death. Both Dr. and Mrs. Howard, being of a kindly nature and generous disposition, prospered not only in worldly goods, but in a host of true and lasting friendships, made in both Coldwater and in the Copper Country. The members of the family were affiliated with the Methodist Episcopal church, of which Mrs. Howard had been a member since girlhood.

The immediate cause of Dr. Howard's death was cerebral hemorrhage. Dr. Howard joined the American Veterinary Medical Association in 1900, the year following his graduation from the McKillip Veterinary College, having been in good standing during the entire period.

"Thus do we pass from the earth and its longings, Only remembered by what we have done."

JOHN OLIVER

The subject of this tribute, Dr. John Oliver, was born in Noxube County, Mississippi, February 27th, 1860. He died at his home in Columbus, Miss., on the night of July 1st, 1922.

He graduated from the Ontario Veterinary College in 1896. He practiced for more than 26 years. He was one of seven to organize the Mississippi State Veterinary Medical Association in 1906. He was one of the first five to serve on the State Board of Veterinary Examiners in Mississippi. He was for more than sixteen years a useful and honored member of the Mississippi State Veterinary Medical Association. He belonged to that character in the generation, the last of whom are now passing from public action.

He was a model husband and father. His devotion to his wife and children was really beautiful and his life from day to day lived out before his family was along the highest plane and was most beautiful in its fruitage to all who had the happiness to share his confidence. He was a quiet man, modest to the last degree, unpretentious and most winning in his manner. His striking figure will seem to be hovering about the meetings of the Mississippi State Veterinary Medical Association for a long time. It is the friendship of such a character as dear old Doctor John Oliver that makes life worth living. His noble qualities have been a stimulant to us. We loved him in life and we respect his memory now that he is dead.

Therefore, be it resolved that we tender our profound sympathy to the relations and friends of the deceased and assure them that we mourn with them in their sorrow for the loss of one who so richly merited their confidence and affection and, be it resolved, further, that these resolutions be spread upon the minutes of this Association as a mark of esteem in which this body held the deceased and as a token of reverence for his memory. Be it also resolved, that a copy of this resolution, suitably engrossed, be furnished by the secretary to the relations of Dr. John Oliver and a copy be sent to the Journal of Veterinary Medicine and the American Veterinary Medical Association for publication.

Committee E. S. NORTON
W. P. FERGUSON
C. D. CRAWFORD

DAVID CUMMING

Dr. David Cumming, of Port Huron, Michigan, a charter member of the Michigan State Veterinary Medical Association, and one of the oldest practitioners in the State, died January 31st, 1923. Pneumonia was the cause of his death, Dr. Cumming having been sick only two days.

Dr. Cumming was born June 26, 1842. He graduated from the Ontario Veterinary College in 1870. After practicing for a



DAVID CUMMING

few years in Canada, he removed to the United States and located in Port Huron, in 1879. At the time of his death Dr. Cumming was one of the few remaining charter members of the Michigan State Veterinary Medical Association, and several years ago was placed on the honorary membership roll.

On April 24, 1920, the veterinarians of Michigan gathered in Detroit to do honor to Dr. Cumming, by marking in a fitting way the 50th anniversary of his graduation from the Ontario Veterinary College. The occasion was a unique and memorable event. One year later, the same group of veterinarians gathered to honor in a similar way, Dr. Joseph Hawkins, who graduated

from the Ontario Veterinary College in 1871. Dr. Cumming was present on this occasion, and it proved to be the last veterinary gathering graced by his presence. Dr. Cumming leaves his widow, one son and one daughter to mourn his loss. His memory was fittingly eulogized at the recent meeting of the Michigan State Veterinary Medical Association, which took place one week following his death.

LOWERY LAMONT LEWIS

Dr. Lowery Lamont Lewis, one of our great friends and coworker, was removed from our ranks by death, on Sept. 26th, 1922, at his home at Stillwater.

Dr. Lewis had been connected with the Agricultural and Mechanical College for the past 26 years. All classes of the College, offices and business houses in Stillwater were closed during the funeral as a tribute of respect to the instructor and educational leader.

Dr. Lewis was born at Newport, Tenn., Sept. 3rd, 1869, being 53 years of age at the time of his death. At the age of ten years the family moved to Texas, where he received his education at the Texas A. and M. College, also taking post-graduate work there, being graduated with the degree of B. S. A., in 1893. In 1894 he received the degree of M. S. Later, he took post-graduate work at the Iowa State College, receiving the degree of D. V. M.

He came to the Oklahoma A. and M. College in 1896 as Professor of Veterinary Medicine. His duties and influence grew in scope during the years that followed, and at the time of his death he was Professor of Veterinary Medicine, Professor of Zoology, Experiment Station Bacteriologist and Veterinarian, Dean of the School of Veterinary Medicine, Dean of the School of Science and Literature and Dean of the faculty, and had the longest career as a member of the faculty of any person in the history of the College.

Dr. Lewis was married at Topeka, Kansas, Sept. 30th, 1903, to Miss Georgia Holt. They had two children, who with his sister and widow are the immediate surviving relatives.

The daily papers, the Texas Aggie, of the Texas A. and M. College, and the veterinary journals, all published a lengthy eulogy for this great man, with a fine personality, resolute in decision, natural leader, practical scientist, protector of animal

industry in Oklahoma, a loyal and good citizen of his adopted State, friend of all and a great worker in our State Association.

By his coming the A. and M. College received a marked impetus in scientific research and wide service, the fruition of which he lived to enjoy. Gentle in manner and unassuming, yet he impressed all who had the privilege of his acquaintance that he was a man, big in mind, in heart and in soul. He leaves a record of achievement which is an enduring monument to his memory, and a remembrance of his example will ever be an inspiration to the members of this association.

"His influence cannot die. It will grow and spread forever."

Committee on Necrology, Oklahoma State Veterinary Medical Association

C. H. ANTHONY
T. W. BREWER

C. R. WALTER

JORGE MARTINEZ S.

Dr. Jorge Martinez S., a Colombian physician, died on September 11th, 1922, at Bogotá, Colombia, South America, as a result of an accidental infection with the bacillus of diphtheria.

Dr. Martinez S. received his training at the Medical School in Bogotá, later in Paris and London, and finally at the Harvard Medical School of Tropical Medicine. After completing these studies he visited several laboratories in the United States, particularly those of the New York City Department of Health and the Bureau of Animal Industry, at Washington, D. C.

He was about 38 years of age when he died, and was perhaps the leading investigator of tropical diseases in Colombia. He was deeply interested in the live stock industry of his country, so much so that he referred questions relating to diseases of animals to well-trained veterinarians. His recognition of the value of scientific veterinary medicine led him to be one of the most important factors in causing the Colombian legislators to establish the Escuela Nacional de Veterinaria de la Universidad de Colombia, in 1921.

Those who knew or came in contact with Dr. Martinez will always remember him as a serious student of his work, and a man with a kind heart and a pleasing personality.

ANDREW M. McCOLLUM

It is with a heart clouded with sadness, which I am sure is participated in by the pioneer veterinarians of California, the California State Veterinary Medical Association and the profession in general, that I have to chronicle the demise of an enthusiastic and ardent member of the profession, Dr. Andrew M. McCollum, of Sacramento, on the 15th day of December, 1922.

Dr. McCollum had been in poor health for a long time and



DR. A. M. McCollum

fought bravely to stay with those he loved, but he suddenly took a change for the worse and just as bravely yielded to the inevitable.

Born in Toronto, Canada, in the year 185l, where he was carefully reared and educated, he in 1873 entered the Ontario Veterinary College, from which institution he graduated May 19th, 1875. After practicing in that city for some five years he came to California and established a practice in Sacramento, which he maintained until some six years ago, when on account of ill health he was compelled to retire. During twenty-six years of

this time he was veterinarian to the famous Rancho del Paso where he was called upon to treat some of the most world-renowned Thoroughbreds, among them being Salvator, Tenny, Ormonde and the queen of the turf, Farenza.

He was a charter member and first secretary of the California State Veterinary Medical Association and later its president. Was elected to life membership some years ago in token of the esteem of his fellow members for his untiring devotion toward veterinary legislative activity.

In the death of Dr. McCollum the community has lost a valuable citizen, the profession a sterling member and the family a loving husband and father. He leaves a wife and two children and a host of friends to mourn his loss.

D. F. F.

JAMES B. ASHCRAFT, JR.

In the February number of the Journal was published a resolution on the death of Dr. James B. Ashcraft, Jr. Since the publication of this notice, a few meager details concerning the death of Dr. Ashcraft have been received in this country. A letter from Dean David S. White contains the following information: "Last November, his brother, Derwin W., a student in this college, received a cablegram stating that Dr. Ashcraft had died. Later his body arrived in Columbus marked "Suicide". A letter from one of Dr. Ashcraft's colleagues, an American, stated that his body was found in the bathroom of the house in which he lived. He had been stabbed to death. Later a report was received from the representatives of our Government concerning his death. As there were a good many discrepancies in this repert and as none of us know any reason why a man of his education, optimistic temperament and good mentality, should take his own life, a re-investigation of the whole affair has been undertaken."

Dr. Ashcraft graduated from the Ohio State University in 1920, and was soon thereafter appointed Professor of Veterinary Medicine in the University of the Philippines, and was stationed at the Los Banos Agricultural Station, about eight miles out of Manila. It is reported that Dr. Ashcraft delivered his regular lecture at 9 o'clock on the morning of his death and was found dead at about 11:30 a.m. He had apparently been in good spirits and the theory that he had taken his own life while

mourning the recent death of his father is discounted by members of the family. His father, James B. Ashcraft, a Columbus contractor, died on October 16th. Dr. Ashcraft came of a fine New England family, and Dean White states that he was one of the best students he ever had, and that in character he was "as clean as a hound's tooth". He was a graduate of the Connecticut Agricultural College prior to taking up veterinary medicine. The War Department has been requested, on behalf of the family, to make a thorough investigation of the facts concerning the death of Dr. Ashcraft.

LEE H. P. MAYNARD

Dr. Lee H. P. Maynard, of Philadelphia, Pa., was accidentally shot and killed by a fellow hunter and companion, Dr. Charles A. Hoak, of Harrisburg, Pa., on October 9, 1922. Both were members of a hunting party from Pennsylvania, the accident occurring near Squaw Pan Lake, Maine. Dr. Hoak, who had seen one deer, mistook Dr. Maynard for another and fired. The bullet struck Dr. Maynard in the neck and caused instant death.

Dr. Maynard graduated from the Veterinary Department of Ohio State University, in 1904. He was a very good student and took an active part in athletics, having been a member of his Varsity football squad. After graduation he located in Philadelphia, where he established the Dairy Laboratory. This laboratory, besides doing a great deal of work for physisians, veterinarians and dentists, rendered laboratory service to a number of the larger dairies in and around Philadelphia. Dr. Maynard joined the American Veterinary Medical Association in 1908. He leaves a wife and one child.

GEORGE L. RICHARDS

Lt. George L. Richards died about nine months ago, in Denver, Colo., of tuberculosis and tumor of the brain. At the time of his death, Lt. Richards was in the Army service and had spent a part of the year at the Colorado Agricultural College, Division of Veterinary Medicine, taking post-graduate work. Lt. Richards was an alumnus of the institution, having received his veterinary degree in 1913. He joined the American Veterinary Medical Association in 1917, and was also a member of the

Colorado State Veterinary Medical Association. Following graduation, Lt. Richards located at Ordway, Colo., and when the United States entered the war, he joined the Veterinary Reserve Corps, and was attached to the 78th Field Artillery, first at Camp Doniphan, Okla., later going to France with the American Expeditionary Forces. After his return to this country, Lt. Richards was located at Fort Des Moines, Ia., and later Fort Collins, Colo.

Lt. Richards was born May 27, 1892, at Omaha, Neb., and was a graduate of the Littleton (Colorado) High School. He was a member of Alpha Psi Fraternity.

GEORGE HOME CARTER

Dr. George H. Carter, for more than 30 years a practitioner of Saginaw, Michigan, died December 25th, 1921, after an illness of 10 days, due to heart failure and pneumonia. Dr. Carter was born in Guelph, Ontario, April 24, 1856, and received his early schooling there. He graduated from the Ontario Veterinary College in 1888, and located in Saginaw two years later. He was married August 24, 1898 to Miss Jennie B. Hubbard, who survives him, together with a sister, Mrs. Wm. Harrison, Guelph, Ont.

Dr. Carter served under several mayors as Market and Food Inspector of Saginaw. He joined the American Veterinary Medical Association in 1911. He was a member of the Michigan State Veterinary Medical Association, a member of the Presbyterian church, of Saginaw Lodge No. 77 F. & A. M. and Saginaw Chapter No. 31 R. A. M.

(The notice of the death of Dr. Carter is published at this late date, as his death was brought to the attention of the Secretary, by the widow, only recently. The statement which appeared in a contemporary Journal recently, that Dr. Carter died several months ago, is incorrect.—

Editor.)

DR. DAVIS RESIGNS

Dr. Benj. F. Davis has resigned the office of State Veterinarian of Wyoming, to accept the position of Secretary-Manager of the Frontier Days Show. Started 27 years ago on a "fly-by-night" scale it has grown to be the biggest spectacle of its kind in the world. It has become such a large institution that it now requires the full and undivided attention of one man all of the time. We congratulate the Show upon getting such a capable Secretary-Manager as Dr. Davis.

MISCELLANEOUS

A General Veterinary Hospital for the U.S. Army Reserve Corps is being organized at the University of Pennsylvania School of Veterinary Medicine.



Staff of the National Veterinary School of Mexico Photograph seat to Dr. N. S. Mayo by Dr. Carlos E. Pavia

Michigan veterinarians have been enjoying a real old fashioned winter. A letter just received from Dr. J. E. Wurm, of Pigeon, states that for the first time in three years he has been compelled to drive horses in getting to his patients. Dr. Wurm says that it is somewhat of a treat, but very slow navigation.

A recent newspaper report, which was given rather wide publicity, contained the statement that ministers were the only ones who did not make any money during 1922. Even veterinarians were not excepted.

DISCERNMENT

The Italian Senate's unanimous vote of confidence in Mussolini is somehow reminiscent of an old story:

"Why do you think your dog loves you?" asked the nice old lady.

"Because he knows I'd knock the stuffin' out of him if he didn't," the boy replied.

Philadelphia Inquirer

PERSONAL

Dr. A. A. Husman has been transferred from Birmingham, Ala., to Jacksonville, Fla.

Dr. E. C. W. Schubel, formerly of Danville, Ill., is now located at Jackson, Michigan.

Dr. Arthur E. Slocum has removed from Denver, Colo., and is now located at Sioux Falls, S. D.

Lieut. Chas. M. Cowherd has been transferred from New Orleans to Fort Sam Houston, Tex.

Dr. W. L. Williamson has removed from Fort Russell, Wyo., and is now located at Rocky Ford, Colo.

Dr. Frank T. Kocher, formerly of Sunbury, Pa., has removed to Espy, Pa., where he is engaged in practice.

Dr. Edward A. Rile, of Ambler, Pa., has just returned from a hunting trip in Virginia, where he shot four bears.

Dr. Wm. B. Price, of Carstairs, Alberta, has been elected Secretary of the Veterinary Association of Alberta.

Dr. E. P. McBane is now located at Frankfort, Ind., having disposed of his practice in Valdosta, Ga., several months ago.

Dr. B. J. Finkelstein, formerly of Cherry Valley, N. Y., has removed to Brooklyn, where he is now located at 422 Sheffield Avenue.

Dr. Victor Ballou has been appointed an agent of the Pennsylvania State Bureau of Animal Industry, and is stationed at Sunbury, Pa. Dr. Paul V. Clarkson has accepted a position with the Pennsylvania Bureau of Animal Industry, and is now located at Lancaster, Pa.

Dr. Chas. F. Wolf has accepted a position with Parke, Davis & Co., and is now attached to the Animal Industry Department at the home offices in Detroit.

Dr. Robt. J. Robertson has removed from Ithaca, N. Y., going to Richmond, Calif., where he has resumed private practice. He gives his address as 537-5th St.

The friends of Dr. Howard B. Felton, of Philadelphia, Pa., who suffered a stroke of paralysis shortly after Christmas, will be pleased to learn that Dr. Felton is improving.

Dr. C. A. Schaufler, Inspector-in-Charge of the Philadelphia U.S. Bureau of Animal Industry Office, the oldest officer in the length of service, is eligible to retirement on June 23, 1923.

Dr. Frank L. Kampschmidt, of Los Angeles, Calif., has tendered his resignation as a member of the A.V.M.A. Dr. Kampschmidt is now practicing as a Chiropractor and Naturopath.

Dr. A. L. Tiffany, of Monroe, Mich., was injured in an automobile accident, which occurred on February 6th. Another machine ran into Dr. Tiffany and caused the latter's car to go into a ditch.

Dr. B. M. Underhill addressed the Cumberland Valey Veterinary Club, at Shippensburg, Pa., on the subject of "The Life History, Diagnosis and Treatment of Internal Parasites," on January 4, 1923.

Dr. Fred Boerner addressed the Delaware-Lehigh Valley Veterinary Club, on the subject of poultry diseases, at the December meeting of the club. Dr. Boerner illustrated his remarks with lantern slides.

Dr. R. C. Riegel, of Harrisburg, Ill., is now in Clovis, New Mexico. He has been there since October last, in the hope of regaining his health, which has been seriously impaired ever since he was in the Army.

Dr. Robert H. Wilson, of Rochester, Mich., was the first out-of-town member to call at the Association office. He dropped in for a brief chat with the Secretary, on February 10th, while in Detroit on a business mission.

Dr. T. E. Munce, member of the Executive Board for District No. 2, and State Veterinarian of Pennsylvania, recently filled the role of Acting-Secretary of Agriculture of Pennsylvania, in the absence of Secretary Willitts.

Dr. Ralph W. E. Daniels, on account of illness, has been obliged to resign his position as Resident Veterinarian in the Speyer Hospital for Animals in New York City, and has returned to his home in Philadelphia.

Dr. Evan L. Stubbs, of Oxford, Pa., is conducting some very interesting research work on the "Intradermal Test for Avian Tuberculosis" in the Laboratories of the Pennsylvania Bureau of Animal Industry at Philadelphia, Pa.

Dr. C. J. Marshall addressed the Northwestern Pennsylvania Veterinary Club, at Sharon, Pa., on January 8, 1923. His topic was "The Work of the Ambulatory Clinic for the Past Year at the University of Pennsylvania School of Veterinary Medicine".

H. W. Jakeman, formerly Associate Director of the Biological Laboratories of Pitman Moore Co., Zionsville, Indiana, has been transferred to sales work and has been placed in charge of the New England territory at the Boston office of the Company, 44 Bromfield St., Boston, Mass.

NOTICE

Nominating ballots for the election of Executive Board members for Districts Nos. 2 and 3 were mailed from the Secretary's office, on February 27, 1923, which was "six months prior to the annual meeting," as specified in the constitution and by-laws.

The terms of the present incumbents of these two offices will expire at the close of the coming annual meeting in Montreal, at which time the two members-elect will assume their duties.

Ballots have been mailed to all members in good standing in Districts Nos. 2 and 3, calling for nominations. These should be returned promptly to the office of the Secretary, 735 Book Building, Detroit, Mich.

Later, election ballots will be mailed to all members in good standing, in these two Districts. Electing ballots will contain the names of the five members, in each District, who received the highest number of nominating votes.

District No. 2 consists of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania and Delaware.

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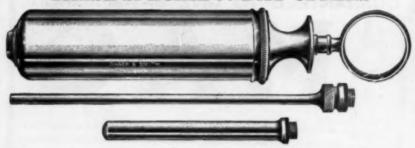
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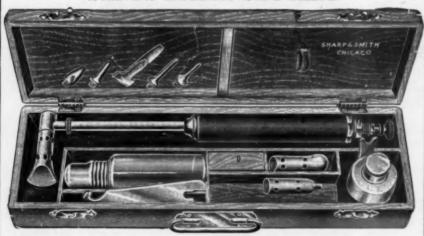


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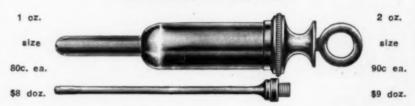
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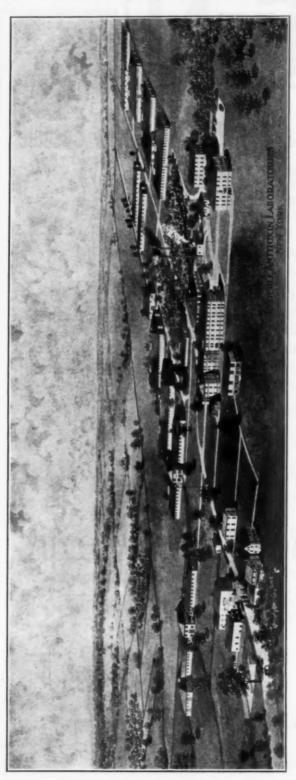
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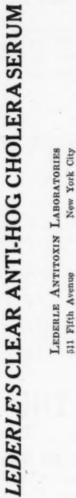
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Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y
Alabama Vet. Med. Ass'n Alumni Ass'n College of Vet.			C. A. Cury, Auburn
Med. O. S. U	***********	. Columbus	James B, Grossman, care O. S. U., Columbus, Ohio
Alumni Ass'n N. YA. V. C	Sept., Dec., Mar	. 338 E. 26th St.	Adolph Eichhorn, Pearl
American Vet. Med. Ass'n	Aug. 28-Sept.	St. Louis	Adolph Eichhorn, Pearl River, N. Y. N. S. Mayo, 4758 Ravens wood Ave., Chicago
Arkansas Veterinary Ass'n	October 11-12	Little Rock	
B. A. I. Vet. In. A., S. Omaha B. A. I. Vet. Ass'n, Metro Div. B. A. I. Vet. Ass'n, Kans. City	On Call	338 E. 26th St.	E. L. Sander, New York City
Unit	1	1	Cirv. Kans.
British Columbia Vet. Ass'n	· · · · · · · · · · · · · · · · · · ·		K. Chester, New Westmin- ster, B. C.
California State V. M. Ass'n Central Canada V. Ass'n Central Mich. V. M. A Central N. Y. Vet. Med. Ass'n. Chicago Vet. Society Colorado State V. M. Ass'n Connectoga Veterinary Club Connecticut V. M. Ass'n	June 5-7	Los Angeles	C. H. Weaver, Ottawa
Central M V Vet Med Ass's	August 4	Jackson	W. N. Armstrong, Concord
Chicago Vet. Society	2d Tu. each mo.	Chicago	I Jaffray Chicago
Colorado State V. M. Ass'n	June 1-3	Ft. Collins	I. R. Newsom, Ft. Collins
Conestoga Veterinary Club	2d Thur.each mo	Lancaster, Pa	H. B. Brady
Dominion Vat Mont Increators!		***************************************	G. B. Colwin, Hartes
Ass'n of Canada	3d Sat. each mo.	Toronto	Whi. Tennant, Toronto
Copesso Valley V M Ass'n		Muscatine	S. E. Houk, Muscatine
Georgia State V M A	Sept 90.91	Rochester	J. H. Taylor, Henrietta, N. I.
Hudson Valley V. M. A	Sept. ac-at	Albany	W. H. Kelly, Albany
Idaho Vet. Med. Assn	January, 1923	Boise	J. D. Adams, Boise
Hudson Valley V. M. A Idaho Vet. Med. Assn Illmo Vet. Med. Ass'n Illinois State V. M. Ass'n	Avenuet 1889	Collinsville, Ill.	S. E. Hous, augustine J. H. Taylor, Henrietta, N.Y. Peter F. Bahnsen, Americus W. H. Kelly, Albany J. D. Adams, Boise L.B.Michael, Collinsville, Ill. L. A. Marillat, Chicago
Indiana Veterinary Ass'n	August, 1922	E. St. Louis	J. L. Axby, Lawrenceburg
Iowa Veterinary Ass'n		Ames	H. D. Bergman, Ames
Kansas State V. M. Ass'n			I. J. Person, Lawrence
Indiana Veterinary Ass'n. Indiana Veterinary Ass'n. Iowa Veterinary Ass'n. Kansas State V. M. Ass'n. Kentucky V. M. Ass'n. Maine Vet. Med. Ass'n. Md. Vet. Med. Assn. Massachusetts Vet. Ass'n.	Feb. 7, 8	Louisville	H. D. Bergman, Ames I. J. Person, Lawrence J. A. Winkler, Newport P. R. Baird, Waterville
Md. Vet. Med. Assn	Jan. 18, 19	Baltimore	Hulbert Young, Baltimore
Massachusetts Vet. Ass'n	Monthly	American House	
		Boston	Harrie W. Peirce, W. Med'd W. E. Watson, Metamora, O. R. A. Runnells, E. Lansing C. P. Fitch, St. Paul H. L. Fry, Jackson R. F. Bourne, Ft Collins, Colo.
Michigan State V. M. A	************	Adrian	W. E. Watson, Metamora, O.
Minnesota State V. M. Ass'n	July 12, 13, 14.	St. Paul	C. P. Fitch, St. Paul
Mississippi State V. M. Ass'n	Jan. 8-9, 1923	Clarksdale	H. L. Fry, Jackson
Missouri Valley V. Ass'n	јшу 10, 11, 12	Omaha, Neb	
Montana State V. M. A	July, 1922	Billings	Chas. D. Folse, Kansas City H. Marsh, Helena
Michigan State V. M. Ass'n Minnesota State V. M. Ass'n Mississippi State V. M. Ass'n Missouri Valley V. Ass'n Missouri Vet. Med. Ass'n Montana State V. M. A Nat'l Ass'n B. A. I. Veterinarians	Meet with A V.		
17.1. 77. 1 9.0 9	D		L. E. Day, Chicago C. J. Norden, Lincoln
Nevada State Vet. Ass'n			
New York S. V. M. Society	July 26-28	Syracuse	C. E. Hayden, Ithaca
North Carolina V. M. Ass'n	June 28, 29, 1922	Asheville	J. P. Spoon, Burlington
Net. Vet. Med. Ass'n Nevada State Vet. Ass'n New York S. V. M. Society North Carolina V. M. Ass'n North Dakota V. M. Ass'n Northwestern Ohio V. M. A.	July 18, 19, 1922.	Fargo	J. P. Spoon, Burlington R. S. Amadon, Fargo C. E. Hershey, Tiffin, Ohlo F. A. Lambert, Columbus, O. W. R. Lukens, Hillsboro
Ohio State V. M. Ass'n		Columbus	F. A. Lambert, Columbus, O.
Ohio Tri-County Vet. Ass'n	***********		W. R. Lukens, Hillsboro
Ohio State V. M. Ass'n Ohio Tri-County Vet. Ass'n Ohio Valley Vet. Med. Ass'n Oklahoma State V. M. Ass'n	************	Olda Ciba	C. S. Henry, Terre Haute
Ontario Vet. Ass'n	*************	Toronto	J. S. Heiny, Terre matter H. Wood Ayers, Okla. City J. S. Glover, Toronto Hal C. Simpson, Pomona W. J. Ratigan, New Orleans B. T. Simms, Corvallis, Ore. R.M. Staley, P. O. 1404, Phila.
Ontario Vet. Ass'n Prange Belt V. M. A Pricans Parish V. M. A	2d Tu. each mo.		Hal C. Simpson, Pomona
Present Vat Med Accim	1st Tu. each mo.	New Orleans	W. J. Ratigan, New Orleans
Pregon Vet. Med. Ass'n ennsylvania State V. M. A	**************	Harrichurg	B. T. Simms, Corvains, Ore.
hiladelphia Veterinary Club	4th Tu. ea. mo.	Philadelphia	C. S. MUCKWEII, STAG CHEST
hilippine Vet. Med. Ass'n			nut St., Philadelphia
ortland Vet. Med. Ass'n	th Tu. ea. mo.	Portland, Ore	A. K. Gomes, Manila Sam B. Foster, Portland, Ore.
ND Jonouin V M A	ist Wed. mo		H. B. Winthringham, Fresno
Carolina Ass'n of Veter'ng	********		M. R. Blackstock, Spart'b'g
outh Dakota V. M. A	*************	Reading	C. R. Potteiger, Reading W. F. Joseph, Iroquois
o. Calif. V. M. A	d Wednesday.		w. r. sosepin rroquois
outheastern Mich. V. M. Ass'n	Monthly	Los Angeles	J. P. Bushong, Los Angeles
outheastern States V. M. A.	Jan.Apr.Jul.Oct.		H. Preston Hoskins, Detroit
outhern Tier V. M. A		Binghamton	J. I. Handley, Atlanta R. R. Birch, Ithaca, N. Y.

Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y.
Southwestern Mich. V. M. A		************	L.A. Winter, Eau Claire, Mich
Tennessee Vet, Med. Ass'n			
Texas State V. M. A	June each year.	Fort Worth	W. R. McCuistion, Ft. Worth
Thumb Vet, Med. Ass'n	July 20	Bay Port	M. J. Geiger, Croswell, Mich.
Utah Vet. Med. Ass'n	Oct. each year.	Salt Lake City.	E. A. Bundy, Ogden
Vermont Vet. Med. Ass'n '	July 12-13	Burlington	Geo. Thomas. Wells River
Vet. Ass'n of Alberta	July and Dec.		T. E. Leclaire, Calgary, Alta.
Vet. Club Dist. of Columbia			F.W.Grenfell, Wash'n, D. C.
Vet. Ass'n of Manitoba			J. B. Still, Winnipeg
Vet. Med. Ass'n of N. J		Trenton	R. W. Butterworth, Paterson
V. M. Ass'n, New York City			
The same and store a control of the	Too Well car mo.		away, N. Y.
Virginia State V. M. Ass'n	Jan. 11, 12	Richmond	W. G. Chrisman, Blacksburg
Washington State Col. V. M. A.	1st 8d Fri eve	Pullman	S Worley Col Station
Washington State V. M. A			
Western N. Y. V. M. A	July	Ratavia	F F Fehr Buffalo
Western Pa. Vet. Club			
W. Virginia Vet. Med. Ass'n	July, annually		C.T. Higginbotham, Charleston
Wisconsin Vet. Med. Ass'n			
York Co. (Pa.) V. M. A	Inly 6 and 7	Vork	F & Baueticker Vork Pa

MEMBERSHIP IN THE A. V. M. A.

Is a professional distinction. The Association stands for education and ethics, for progress, fellowship and a professional spirit. Every veterinarian who is eligible should be a member. Initiation fee, \$5.00. Dues, \$5.00 a year, including subscription to the Journal.

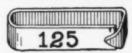
DR. N. S. MAYO, Secretary, 4753 Ravenswood Ave., Chicago, Illinois

VETERINARY PRACTICE, POSITIONS, ETC., furnished and handled for sale in 48 States. Physicians, dentists and nurses furnished and located. Drug stores for sale and drug positions in all States. F. V. Kniest, Peters Trust Bidg., Omaha, Nebr. (Guaranteed Service.) Established 1904.

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The new Ear Tag for Cattle, Sheep and Hogs, 3 sizes. Simplest, best and cheapest. Requires but one movement to pierce ear and clinch itself. Not transferable. Made of bright steel, light but durable. Stamped with name (and address on larger) and numbered. Already indorsed by government, states, veterinarians, breeders and farmers that have used them. Write for description and prices.

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CHAMPION

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Supplied Only Through Dealers

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Hog cholera virus is the primary and controlling factor in the production of anti-hog cholera serum and in the use of serum in the field.

Satisfactory results following the use of the most potent serum cannot be obtained unless the simultaneous virus used in connection therewith is of the highest possible virulency.

Realizing the importance of these facts, the United Serum Company endeavors to control its virus production in such a manner as will yield a product of the highest virulency.

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UNITED SERUM CO.

Kansas City, Kansas



RESPONSIBILITY

We produce FORT DODGE CLEAR SER-UM from start to finish right on our own premises—no guess-work enters into its manufacture.

WE KNOW

that the whole blood we produce is highly potent because WE KNOW we inoculate our "Hyper-immunes" with intensely virulent virus which is bound to produce a serum high in anti-bodies.

WE KNOW

that this whole blood is handled in such a way that it is either entirely sterile when turned over to our Clear Serum department or else has such a very low bacterial count as to be entirely negligible. This gives us a great start toward the production of a Pure Potent CLEs. R. Serum. If we did not produce our own whole blood and is d to buy it on the serum market where we could purchase it to advantage, then we should have to take someone else's word for the purity and potency of the whole blood so procured; we should have to content ourselves with simply clarifying the whole blood produced on other premises; and we could not possibly take the interest in, nor stand back of, the product to the extent that we do with our own CLEAR Serum which we manufacture from beginning to end.

WE STAND BACK

of every drop of FORT DODGE Clear Serum, KNOWING as we do that the virus, the blood serum, the swine, the technique, the equipment, the knowledge, and all else entering into its manufacture represent the highest degree of perfection and are RIGHT in every particular.

FURTHER-

in addition to the prescribed U. S. Government tests, FORT DODGE Clear Serum is subjected by us to microscopic examinations and animal inoculation tests to prove beyond a shadow of doubt that our product is free from any filtrable viruses or pathogenic bacteria.

Insist upon using FORT DODGE Clear Serum—The Clear Serum that has made good upon thousands of swine during the past two years.

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Better Anti-Hog Cholera Serum is made The Missouri Valley Serum Co. makes it Because It's Throat Bled

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A supply of fresh Throat Bled Serum and Virus, also a full line of veterinary biologics and instruments for their administration are carried on hand at all times by the above Branches.

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Use Fowler Serum

It is Fresh, Potent and Dependable



VETERINARIANS all over the country use it, because when they vaccinate their clients' hogs with same, it means satisfied customers and repeat business.

Four hundred Armour and Company branch houses carry this product. One of these is located in your territory, and is easy of access.

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Abraham Lincoln Said: "If You Do Not Save You Cannot Succeed."

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- A. In selecting your Anti-Hog Cholera Serum for your client's herd your attention and consideration is directed to Rex Products:
- A Product that has made a wonderful reputation for itself in a short time.
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Have you given us an opportunity to show you?

If not, all we ask is an initial order and we will prove the rest.

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F. O. B. your town if order amounts to 10,000 c.e. or more. Sales exclusively to Veterinarians

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U. S. Veterinary License No. 170 So. St. Joseph, Mo.



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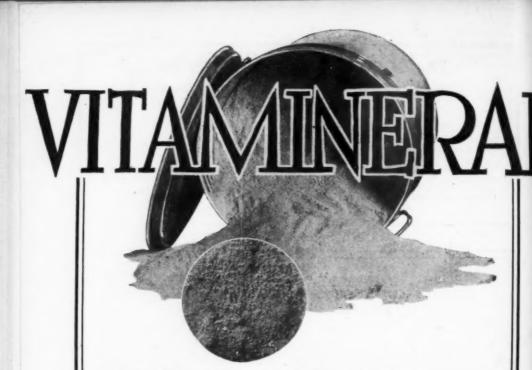
Horse or Cow hide, Calf or otherskins with hair or fur on, and make them into coats (for men and women), robes, rugs or gloves when so ordered; or we can make your hides into Oak Tanned Harness or Slaughter Sele Leather; your ceifskins into Shoe Leather; colors Gun Metal, Mahogany Russet or lighter shade.

snade. Calfskins tanned in the lighter shades of shoe leather, also make slegant attend and table covers; great for birth-day, wedding and holiday gifts.

LET US FIX YOUR

fashion, repair and reshape them if needed. Fars are very light weight, therefore it would cost but tittle to send them in to us by Parcel Post for our estimate of cost, then we will hold them aside awaiting your decision. Any estimate we make calls for our best work. Our filustrated estaling and style book combined gives a lot of useful information. It tells how to ake off and care for hides. About our safe dyeing process on cow and hou se hides, calf and fur skins. About dressing fine fur skins and making them into neckpieces, muffs and garments. About Taxidermy and Head Mounting.

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Vitamineral (the original Dr. A. T. Peters formula) increases milk flow and butter fat; aids in correcting abortion, sterility, malnutrition, paralysis, rickets in horses, cattle, swine, sheep.

VITAMINERAL

is recognized the country over as the one successful agent to restore enfeebled tissues.

Domestic animals excrete more minerals than they consume and thus

leave them constantly prey to pathologic processes. But ordinary minerals will not rebuild worn out tissues. Vitamines must be used to replace those constantly being destroyed.

Vitamineral is the only formula containing sufficient dried yeast vitamines with minerals to correct and prevent malnutrition and allied diseases.

Costs less than 1c per head per day. The most wonderful of all animal correctives. Builds reputations for Veterinarians who rely on its sure results.

VITA WORM CAPSULES

Millions used yearly by the country's most successful Veterinarians. Priced where good profit is available to you. Will eliminate not only ordinary stomach and intestinal worms but kill and discharge thorn

headed worms. Order Vitamineral and Vita-Worm Capsules direct or from your nearest

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Peoria, Illinois

THE FEATURE OF THE MONTH

in the Pitman-Moore advertising campaign is the story of a farmer who told a million and a half of his fellow farmers that "it's a good thing to harp a little on, that good serum must be administered by a competent graduate veterinarian to secure the best results."

See following pages.

PITMAN-MOORE COMPANY

Pharmaceutical and Biological Chemists

Indianapolis

U. S. A.

The Feature of the Month

in the Pitman-Moore Advertising Campaign is the ad reproduced herewith. Like all Pitman-Moore ads, now reaching 1,500,000 farmers and breeders, it was written by a *user* of Pitman-Moore serum and a *believer* in the services of the veterinarian.

Incidentally, did you know that Pitman-Moore Serum advertising is the *only* serum advertising which has *ever* been accepted for publication by the *Country Gentleman?*

This publication has the most rigid censorship of its advertising columns of any agricultural publication with which we are familiar.

The readers of the Country Gentleman realize the importance of this censorship. They know that Pitman-Moore serum must be far superior to the average serum, or it would not be the only serum advertised in the Country Gentleman.

Can you, in turn, realize how great an asset this advertising is to the prestige of the veterinarian who uses Pitman-Moore serum?

THE DEMAND FOR FARMER-VACCINATION IS NOT COMING FROM THE TERRITORIES OF CONSISTENT USERS OF PITMAN-MOORE SERUM



The ad to the right appears in the January 6, 1923, issue of the "Country Gentleman" and in the January issues of all leading Swine Publications.

PITMAN-MOORE COMPANY

Pharmaceutical and Biological Chemists

Indianapolis

U. S. A.



Pure Bred Hampshire Gilts on the Bunn Farm immunized with

PANTI-HOG-Cholers Virus

"My success with Pitman-Moore Serum is due, I feel, to its purity and potency."

Chas. E. Quenn

"It is my experience that Pitman-Moore Serum, when properly administered, gives positive protection against hogcholera.

"All of my hogs are immuned with Pitman-Moore Serum and Virus, because I feel that it is foolish to try to get immunity with an inferior product.

"I think it is a good thing to harp a little on, that good serum must be administered by a competent, graduate veterinarian to secure the best results," says Chas. E. Bunn of Peoria, Illinois—nationally known Hampshire breeder.

PITMAN-MOORE COMPANY

Pharmaceutical and Biological Chemists Executive Offices, Indianapolis, U.S.A.



THE FEATURE OF THE MONTH

in the Pitman-Moore advertising campaign is the story of a farmer who told a million and a half of his fellow farmers that "it's a good thing to harp a little on, that good serum must be administered by a competent graduate veterinarian to secure the best results."

See preceding pages.

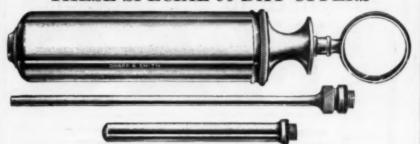
PITMAN-MOORE COMPANY

Pharmaceutical and Biological Chemists

Indianapolis

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DON'T FAIL TO TAKE ADVANTAGE OF THESE SPECIAL 90-DAY OFFERS

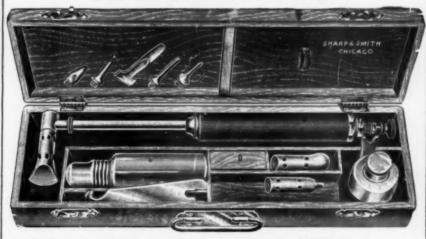


One or two-ounce extra heavy, perfected, rounded end, heavy double leather plunger, nickel plated, dose syringes with 1/3-inch heavy dose and 1/6-inch quittor pipe at 90c each or \$9.50 per dozen.

Same as above with 1/6-inch heavy dose pipe only at 90c each or \$9.50 per dozen.

Same as above with 1/9-inch heavy dose pipe only at \$1.20 each or \$12.50 per dozen.

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Cautery complete in case with ball point at \$17.50. Cautery complete in case without ball point at \$17.00.

All Prices are F. O. B. Chicago

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Manufacturers and Exporters of High Grade Veterinary Instruments 65 E. LAKE STREET, CHICAGO, ILLINOIS

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Established 1844

Incorporated 1904





For Splints, Spavins, Curbs, Side Bones, Shoe Bells, Ossifications, Inflame 2 Tendone, Bursal, Lameness, Etc.

ADVANTAGES

be applied in a few seconds a not soil the hands. a not bleminh the horse, se may be used every day, or in price than imitations, rantos label may be detache

WE TAKE THE RISK

If "M-A-G" Fails on Fairly Selected Cases We Will Replace Your Loss.

PRICES

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CARTER-LUFF CHEMICAL CO., HUDSON. VETERINARY PHARMACEUTICALS

WRITE FOR OUR GATALOGUE

We Bought at a Saving and So Can You

BANDAGES

\$10.44 Worth for \$5.00

A large purchase of Government stores lets us offer you a carton of 144 Genuine Bauer & Black bandages at a saving of 50%. These bandages are made of 44x40 mesh gauze, 6 yards long and divided equally into three widths, 4 dos. $2\frac{1}{2}\%$, 4 doz. 8% and 4 doz. $3\frac{1}{2}\%$. Each bandage is sterilized, tightly compressed into flat shape and individually wrapped and sealed so that it stays clean until you use it.

As this bandage is made of sterilized gauze, it is ideal for many other uses besides as a bandage. Due to its being kept clean in a tight sealed wrapper until you need it, it is the most convenient and economical package of gauze yet desides as a bandage. vised to carry in your case. Unlike the pound carton which is many times as much as you need for any dressing or packing, this neat little package lets you open just as much as you need. There is no bloody or dusty or soiled gauze left over to throw away as waste.

Gauze bandages, due to their interstices, stay in place without slipping like smoother fabrics; 44x40 mesh gauze is exceptionally strong—no better bandages are made. A few carried in your case take up little room, and are ready for many uses bandages, dressing, packings, etc.

We have never offered a better bargain. Order a few cartons-they are guaranteed to satisfy.

Bauer & Black Veterinary Bandage, Carton \$5.00

FRANK S. BETZ COMPANY

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J. H. Copenhaver, D. V. M., Pres. W. C. Herrold, V. S., Sec'y.

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PRODUCERS AND DISTRIBUTORS

Anti-Hog Cholera Serum

U. S. Vet. License No. 127

A Serum of Quality for Veterinarians
Full Line Veterinary Biologics
Omaha Shipping Facilities
Sudden Service

RALSTON, NEBRASKA

Members of the Associated Serum Companies of America

SWAN-MYERS MIXED INFECTION BACTERIN

(FOR SWINE)

This bacterin is indicated in the prophylaxis and treatment of "Thumps," Bronchopneumonia, Necrotic Enteritis, complicated Hemorrhagic Septicemia and the various mixed infections occurring in hogs.

Each 2 mils contains:

Bacillus Suisepticus....... 10,000 million Bacillus Suipestifer 10,000 million Bacillus Coli (Porcine).... 10,000 million Bacillus Pyocyaneus

(Por.) 5,000 million

Average dose is 2 c.c.

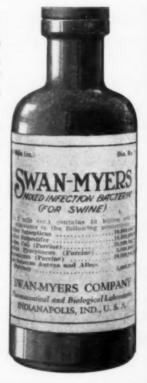
For Prophylaxis—two or preferably three doses, according to weight, at four to five-day intervals, injected subcutaneously.

For Treatment—Inject subcutaneously two or three times the prophylactic dose at twelve to twenty-four-hour intervals until the temperature has returned to normal, then every four or five days until the animal has recovered.

Code 20 mil (Cc) pkg., 10 dos.,\$1.20 Chase 100 mil (Cc) pkg., 50 dos., 5.00 Chaser U. S. Veterinary License, No. 104

SWAN-MYERS COMPANY

Pharmaceutical and Biological Laboratories INDIANAPOLIS, U. S. A.



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BIOLOGICAL PRODUCTS

THERE HAS NEVER BEEN ANY QUESTION ABOUT THEIR ABSOLUTE SUPERIORITY. WHY NOT USE THE BEST?

Pasteur's original and genuine Anthrax Vaccine is now furnished in single and double treatment. It positively prevents anthrax.

Profs. Leclainche & Vallée's Liquid Blackleg Vaccine is a true and perfectly attenuated vaccine, and has revolutionized live stock vaccination. Why risk your professional reputation with makeshift blackleg vaccine?

Full information regarding the above, as well as Tuberculin, Mallein, Intra-Dermo Palpebral Malleination, Antitetanic and Antistreptococcic Serum, etc., furnished on request.

PASTEUR LABORATORIES OF AMERICA

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Laboratoire des Vaccins Pasteur pour l'Etranger and institute Pasteur, Paris, France, Biological Products.

Diseases of the Genital Organs of Domestic Animals

By W. L. WILLIAMS

Professor Emeritus, formerly Professor of Obstetrics and Research Professor of the Diseases of Breeding Cattle, in the New York State Veterinary College at Cornell University.

Eight hundred and seventy-four pages, eight colored engravings, and two hundred and forty illustrations in text. The only comprehensive treatise on the subject in any language. 1921. Price, \$10.00.

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Six hundred and fifty pages, three colored plates, and one hundred and forty illustrations in text. Universally recognized as the foremost authority. 1917. Price \$5.00.

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Two hundred and six pages with seventy-four illustrations. Fourth Edition. 1919. Price, \$3.00

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killed organisms to each 2 c.c.

This is the count QUALITY Mixed Bacterin Swine carries. That is why it is the most popular bacterin on the market today.

Did you receive our new catalog? If not write for one. Every page carries an interesting story in prices.

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Necrobacillosis Powder

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Syringes

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Blackleg Aggressin, and hundreds of others

QUALITY BIOLOGIC COMPANY

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COOPER'S

Saponified Cresol Solution

50% PURE CRESOL

An officially approved substitute for Liquor Cresolis Compositus in disinfection work under B. A. I. control

Willm. Cooper & Nephews

152 W. Huron St.

Chicago, Ill.

Established 1843

SATISFACTION

Thousands of Veterinarians Continue to Use SIOUX BRAND SERUM AND VIRUS

There is a reason
THE SERUM OF NO REGRETS
A Trial Order will convince you—Produced by



Sloux Brand

Pioneer Producer of Potent Serum and Virulent Virus
U. S. Veterinary License No. 37

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Columbus, Ohio, F. M. Vosburgh,

229 W. 8th Ave.

JEN-SAL BIOLOGICS.

Be prepared for

Stock-yards Pneumonia

and other forms of Hemorrhagic Septicemia with the following reliable Biological Products:

PROPHYLACTIC TREATMENT

- 1. Bacterin.—To be used where only one treatment of the animals is possible.
- 2. Vaccine.—Two prophylactic treatments about a week apart. To be employed in preference to the single-dose, bacterin treatment whenever possible.
- Serum.—For immediate protection of exposed animals, to confer passive immunity.

CURATIVE TREATMENT

- 1. Serum.—Splendid results are obtainable with Anti-Hemorrhagic Septicemia Serum in 100-cc doses administered to calves affected with stock-yards pneumonia.
- 2. Bacterin.—May be used alone or to supplement the serum. Do not use vaccine on sick animals.

Ask for literature on

Hemorrhagic Septicemia Products for Cattle, Sheep, and Swine.

Parke, Davis & Company

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Canine Distemper Mixed Bacterin

For prevention and treatment of Canine Distemper, our Bacterial Vaccine, in which we specialize, has some interesting advantages, both in content and pack.

The Moore method is economical and effective and has a long record of success. Detailed information, with prices, upon receipt of your address.

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ANTI-HOG CHOLERA SERUM HOG-CHOLERA VIRUS

(Just Off Test)

FRESH

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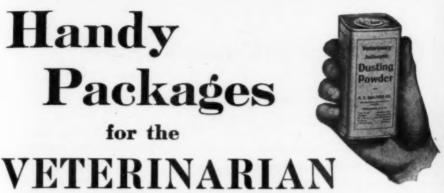
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So far as the veterinarian is concerned, the "best seller" of the year is the serial story of which the Pitman-Moore Company is issuing one and a half million copies to American farmers.

The theme of this story is "Sold to licensed, graduate veterinarian sonly". It is a warning to the farmer not to vaccinate his own herds.

A recent chapter is reproduced on the following pages. Read it.

PITMAN-MOORE COMPANY

Pharmaceutical and Biological Chemists
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Leading Farmers Speak for the Veterinarian

When you, as a veterianarian, tell the farmer about the folly of self-immunization he takes your advice with a grain of salt—he imagines that perhaps you are prejudiced in your own favor.

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But, when leading successful hog raisers tell him that years of experience have demonstrated that the only safe way to immunize is to employ a licensed, graduate veterinarian to do the work, he listens with respect.

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Are you making these advertisements work for YOU? Are you helping us drive home this message—which means more calls for the veterinarian?

*The advertisement on the opposite page appeared in the October 21, 1922, issue of the "Country Gentleman," and in the November issues of leading Swine Publications. It is a part of a series of ads in which leading raisers of ALL BREEDS endorse the Pitman-Moore policy of "sold to licensed, graduate Veterinarians, only."



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Two of the Hurless Hogs immunized with

PITMAN - MOORE Anti-Hog-Cholena Serumand Hog-Cholena Virus

For ten successive years your serum has given us eminently satisfactory results from every standpoint."

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H. G. Hurless & Sons, Frankfort, Ind., successful breeders of Chester White Hogs, also say:

"The treatment has never caused an abscess and has seldom caused an animal to miss a feed.

"It would be impossible to maintain a breeding establishment like ours in this section of the country without the protection which the Pitman-Moore product assures us.

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"We believe that the Pitman-Moore policy of permitting their serum and virus to be administered only by licensed graduate veterinarians insures the best results."

PITMAN-MOORE COMPANY

Pharmaceutical and Biological Chemists Executive Offices, Indianapolis, U. S. A.

VETERINARIANS!

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PITMAN-MOORE COMPANY

Pharmaceutical and Biological Chemists

Indianapolis

U. S. A.

VETERINARY ASSOCIATIONS

Secretaries of Veterinary Associations are requested to cooperate with us in keeping this directory up to date.

Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y
Alabama Vet. Med. Ass'n Alumni Ass'n College of Vet.		Auburn	C. A. Cary, Auburn
Med. O. S. U		Columbus	James B. Grossman, care (S. U., Columbus, Ohio
Alumni Ass'n N. YA. V. C	Sept., Dec., Mar.	888 E. 26th St	Adolph Eichhorn, Peni River, N. Y.
American Vet. Med. Ass'n		Montreal	H. Preston Hosking Detroit
Arkansas Veterinary Ass'n B. A. I. Vet. In. A., S. Omaha B. A. I. Vet. Ass'n, Metro Div. B. A. I. Vet. Ass'n, Kans. City	3d Mon.each mo.	S. Omaha, Neb.	J. V. Giffee, So. Side, Omah E. L. Sander, New York Cit
B. A. I. Vet. Ass'n, Kans. City	On Call	Fed'l Bldg	Jos. W. Parker, Kansa
Unit British Columbia Vet. Ass'n California State V. M. Ass'n Central Canada V. Ass'n Central Mich. V. M. A Central N. Y. Vet. Med. Ass'n. Colorado State V. M. Ass'n. Conestora Veterinary Club.			City, Kans. K. Chester, New Westmin
California State V. M. Ass'n	June 4	San Francisco	J. P. Bushong, Los Angele
Central Mich. V. M. A		Jackson	W. N. Armstrong, Concord
Chicago Vet. Society	2d Tu. each mo.	Chicago	J. Jaffray, Chicago
Colorado State V. M. Ass'n	June 1-8	Ft. Collins	I. E. Newsom, Ft. Collins
Chicago Vet. Society	zd Thur.each mo	Hartford	G. E. Corwin, Hartford
Dominion Vet. Meat Inspectors' Ass'n of Canada	3d Sat. each mo.	Toronto	Whi. Tennant, Toronto S. E. Houk, Muscatine J. H. Taylor, Henrietta, N.Y Peter F. Bahnsen, Americu W. H. Kelly, Albany J. D. Adams, Boise L.B. Michael, Collinsville, III
Eastern Iowa Vet. Ass'n		Muscatine	S. E. Houk, Muscatine
Georgia State V. M. Assir		Albany	Peter F. Bahnsen, America
Ass'n of Canada Eastern Iowa Vet. Ass'n Genesee Valley V. M. Ass'n Georgia State V. M. A. Hudson Valley V. M. A. Illimo Vet. Med. Assn Illimo Vet. Med. Ass'n Illimois State V. M. Ass'n	January, 1923	Roise	W. H. Kelly, Albany
Illmo Vet. Med. Ass'n	,	Collinsville, Ill.	L.B.Michael, Collinsville, Ill
Illinois State V. M. Ass'n Indiana Veterinary Ass'n	December, 1923.	Cincagorita	L. A. Merillat, Chicago J. L. Axby, Lawrenceburg
Indiana Veterinary Ass. Iowa Veterinary Ass. Kansas State V. M. Ass'n. Kentucky V. M. Ass'n. Maine Vet. Med. Ass'n. Md. Vet. Med. Assn.		Ames	H. D. Bergman, Ames
Kansas State V. M. Ass n Kentucky V. M. Ass'n	Feb. 7, 8	Louisville	J. J. Person, Lawrence J. A. Winkler, Newport P. R. Baird, Waterville
Maine Vet. Med. Ass'n	Ian 18 19	Bangor	P. R. Baird, Waterville Hulbert Young, Baltimore
Massachusetts Vet. Ass'n	Monthly	American riouse	
Michigan-Ohio V. M. A		Boston	Harrie W. Peirce, W. Med's
Michigan State V. M. Ass'n		East Lansing	R. A. Runnells, E. Lansin
Michigan-Ohio V. M. A Michigan State V. M. Ass'n Minnesota State V. M. Ass'n Mississippi State V. M. Ass'n Missouri Valley V. Ass'n	Jan. 8-9, 1928	Clarksdale	H. L. Fry, Jackson
Missouri Valley V. Ass'n Missouri Vet. Med. Ass'n		Omaha, Neb	Chas. D. Folse, Kansas City
Montana State V. M. A	Most with A W	Helena	H. Marsh, Helena
narians	M. A.		L. E. Day, Chicago
Neb. Vet. Med. Ass'n	Dec. 12, 13	Lincoln	C. J. Norden, Lincoln Stephen Lockett Reno
New York S. V. M. Society	***********		C. E. Hayden, Ithaca
North Carolina V. M. Ass'n			R. S. Amadon, Fargo
Northwestern Ohio V. M. A		Columbus	C. E. Hershey, Tiffin, Ohio
Montana State V. M. A Nat'l Ass'n B. A. I. Veterinarians Neb. Vet. Med. Ass'n Nevada State Vet. Ass'n New York S. V. M. Society North Carolina V. M. Ass'n North Dakota V. M. Ass'n Ohio State V. M. Ass'n Ohio Tri-County Vet. Ass'n Ohio Valley Vet. Med. Ass'n Oklahoma State V. M. Ass'n	***********	· · · · · · · · · · · · · · · · · · ·	R. S. Amadon, Fargo C. E. Hershey, Tiffin, Ohic F. A. Lambert, Columbus, O W. R. Lukens, Hillsboro C. S. Henry, Terre Haute H. Wood Ayers, Okla. City J. S. Glover, Toronto
Ohio Valley Vet. Med. Ass'n		Okla. City	H. Wood Avers Okla City
Ontario Vet. Ass'n	ed Tu each ma		
Ontario Vet. Ass'n	1st Tu. each mo.	New Orleans	W. J. Ratigan, New Orleans B. T. Simms, Corvallis, Ore R.M. Staley, P. O. 1494, Phila
Pennsylvania State V. M. A		Hawelehnes	B. T. Simms, Corvallis, Ore
Philadelphia Veterinary Club.	4th Tu. ea. mo.	Philadelphia	C. S. Rockwell, 5128 Chest nut St., Philadelphia
Philippine Vet. Med. Ass'n	445 000		A. K. Gomer, Manila
San Joaquin V. M. A	ith Tu. ea. mo. 1st Wed. mo	Portland, Ore	sam H. Foster, Portland Ore
Philippine Vet. Med. Ass'n Portland Vet. Med. Ass'n San Jaquin V. M. A Schuylkill Valley V. M. A South Dakota V. M. A			H. B. Winthringham, Freene M. R. Blackstock, Spart'b's C. R. Potteiger, Reading W. F. Joseph, Iroquois
outh Dakota V. M. A		Reading	W. F. Joseph, Iroquois
	Monthly	Los Angeles	J. P. Bushong, Los Angeles
Southeastern Mich. V. M. Ass'n			H. Preston Hoskins, Detroit
outheastern States V. M. A	November 21-22.		J. I. Handley, Atlanta R. R. Birch, Ithaca, N. Y.
outhern Tier V. M. A	***********	Binghamton	A. A. Diren, Ithmen, N. Y.

Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y.
Southwestern Mich. V. M. A	***********		L.A. Winter, Eau Claire, Mich
Tennessee Vet. Med. Ass'n			C. E. Kord, Nashville
Texas State V. M. A	June each year.	Fort Worth	W. R. McCuistion, Ft. Worth
Thumb Vet. Med. Ass'n			M. J. Geiger, Croswell, Mich.
Utah Vet. Med. Ass'n	Oct. each year.	Salt Lake City.	E. A. Bundy, Ogden
Vermont Vet. Med. Ass'n '			Geo. Thomas, Wells River
Vet. Ass'n of Alberta	July and Dec		T. E. Leclaire, Calgary, Alta.
Vet. Club Dist. of Columbia			F.W.Grenfell, Wash'n, D. C.
Vet. Ass'n of Manitoba			J. B. Still, Winnipeg
Vet. Med. Ass'n of N. J	January 11	Trenton	P. B. Silvester, Princeton
V. M. Ass'n, New York City	1st Wed. ea. mo.	338 E. 26th St	J. E. Crawford, Far Rock-
			away, N. Y.
Virginia State V. M. Ass'n	Jan 11 12	Richmond	W. G. Chrisman, Blacksburg
Washington State Col. V. M. A.	1st 2d Fri ave	Pullman	S. Worley, Col. Station
Washington State V. M. A	ist, ad Pil, eve.	t dimmen	Carl Cozier, Bellingham
Western N. Y. V. M. A	************		F. F. Fehr. Buffalo
Western Pa. Vet. Club	ad Tu such mo	Dittehureh	Fred Wietzel, Pittsburgh
W. Virginia Vet. Med. Ass'n	July annually	Titesburgh	J. J. Cranwell, Fairmont
Wisconsin Vet. Med. Ass'n	oury, minumity.	************	O E Eliason, Madison
York Co. (Pa.) V. M. A		Vork	E S Bausticker, York, Pa.

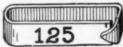
MEMBERSHIP IN THE A.V.M.A.

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WE KNOW

that this whole blood is handled in such a way that it is either entirely sterile when turned over to our Clear Serum department or else has such a very low bacterial count as to be entirely negligible. This gives us a great start toward the production of a Pure Potent CLEAR Serum. If we did not produce our own whole blood and had to buy it on the serum market where we could purchase it to advantage, then we should have to take someone else's word for the purity and potency of the whole blood so procured; we should have to content ourselves with simply clarifying the whole blood produced on other premises; and we could not possibly take the interest in, nor stand back of, the product to the extent that we do with our own CLEAR Serum which we manufacture from beginning to end.

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FURTHER-

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Insist upon using FORT DODGE Clear Serum—The Clear Serum that has made good upon thousands of swine during the past two years.

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Fort Dodge

Iowa

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Dr. E. B. Hollecker, Vice-Pres. and Laboratory Supervisor.



Dr. Phillip Ritter, Chief Veterinarian

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Missouri Valley Serum Company, Foot of South St., Peoria, Ill. Dr. J. F. ROSER in charge

Missouri Valley Serum Company, 636 E. Grand Ave., Des Moines, Iowa Dr. E. W. HANSON in charge

Dr. George W. Gillie, Fort Wayne, Indiana.

Roy Dickerson, 300 Broadway, Logansport, Indiana.
Dr. D. D. Dragoo, Rushville, Indiana
Dr. O. F. West, Sheldon, Illinois

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mendous loss, which they usually sustain from hog cholera.

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DO IT NOW. DELAY MEANS LOSS!

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FRESH ANTI-HOG CHOLERA SERUM AND VIRUS

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Dr. C. Stewart,
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			APAZZA C	*****	M STOR	AACA	ADDE	7.4		
Code	Word				,					
Grind	Per	vial	250 mil	(50	doses)	@	9c	per	dose \$4	.50
Get	Per	vial	50 mil	(10	doses)	@	10c	per	dose 1	.00
Go									dose	.60
	1000	dose	s in bu	ılk c	ontaine	rs,	8c	per	dose net.	
			Sent	on u	nspecifi	ed	orde	rs		

LIQUID BLACKLEG VACCINE

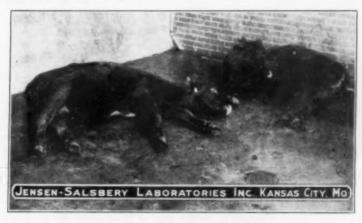
Code w Grace		250 mil	(50 doses)	(@	6c	per	dose	3.00
Guess	Per vial	50 mil	(10 doses)	(a)	71/2C	per	dose	.75
Gull	Per pkg.	. 6 2-m	il ampoule	s @	121/2c	per	dose	.75

BLACKLEG FILTRATE

Cada	Word
-	11
Gas	The state of the s
Gap	Per vial 50 mil (10 doses) @ 9c per dose
-	1000 doses in bulk containers, 71/2c per dose net.
	ANTE DI ACCI DO CEDIM

ANTI-BLACKLEG SERUM

Code	Wor	'cl			
Guy	Per	vial	100	mil	.\$2.25



The first step in making aggressin is to infect susceptible calves with the blackleg virus. The two calves in the photograph show stage of infection 48 hours after injection.

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To the discriminating members of the veterinary profession who are interested in using our product, we will be glad to refer you to some of the largest individual users of serum in this country, who have and are now using our serum.

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BRANCH

Danville Wholesale Drug Company Danville, Illinois



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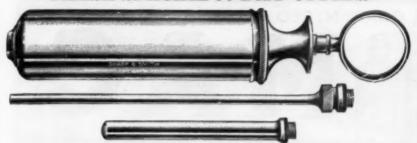
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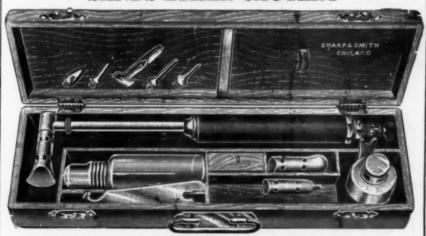


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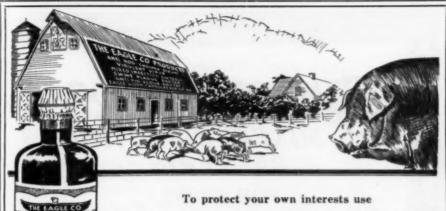
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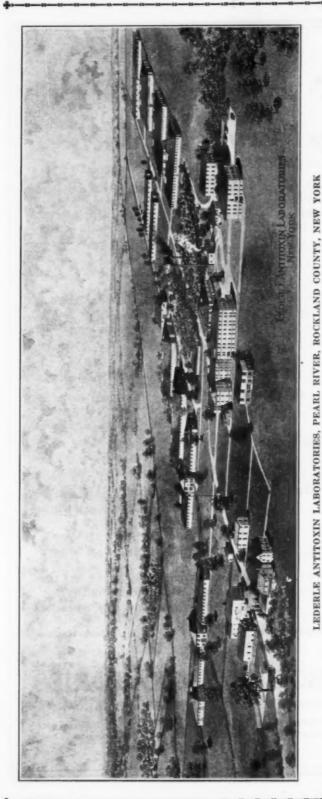
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Secretaries of Veterinary Associations are requested to cooperate with us in keeping this directory up to date.

Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y
Alabama Vet. Med. Ass'n		Auburn	C. A. Cary, Auburn
Alumni Ass'n College of Vet. Med. O. S. U	***************************************	Columbus	James B. Grossman, care O
Alumni Ass'n N. YA. V. C	Sept., Dec., Mar.	338 E. 26th St	S. U., Columbus, Ohio Adolph Eichhorn, Pear River, N. Y. H. Preston Hoskins, Detroit
American Vet. Med. Ass'n		Montreal	H. Preston Hoskins, Detroit Joe H. Bux, Little Rock
B. A. I. Vet. In. A., S. Omaha	3d Mon.each mo.	S. Omaha, Neb.	J. V. Giffee, So. Side, Omnh
Arkansas Veterinary Ass'n B. A. I. Vet. In. A., S. Omaha B. A. I. Vet. Ass'n, Metro Div. B. A. I. Vet. Ass'n, Kans. City	On Call	Fed'l Bldg	E. L. Sander, New York City Jos. W. Parker, Kansa
Unit British Columbia Vet. Ass'n			City, Kans. K. Chester, New Westmin
California State V. M. Ass'n Central Canada V. Ass'n Central Mich. V. M. A Central N. Y. Vet. Med. Ass'n Chicago Vet. Society. Colorado State V. M. Ass'n	June 4	San Francisco	J. P. Bushong, Los Angele
Central Mich. V. M. A		Jackson	W. N. Armstrong, Concord
Central N. Y. Vet. Med. Ass'n.	2d Tu. each mo.	Chicago	W. B. Switzer, Oswego
Colorado State V. M. Ass'n	June 1-3	Ft. Collins	I. E. Newsom, Ft. Collins
Conestoga Veterinary Club	2d Thur.each mo	Lancaster, Pa	H. B. Brady G. E. Corwin, Hartford
Colorado State V. M. Ass'n Conestoga Veterinary Club Connecticut V. M. Ass'n Dominion Vet. Meat Inspectors' Ass'n of Canada Eastern Iowa Vet. Ass'n Georgia State V. M. Ass'n Georgia State V. M. A Hudson Valley V. M. A Illimo Vet. Med. Ass'n Illinois State V. M. Ass'n Illinois State V. M. Ass'n Indiana Veterinary Ass'n	ad Cat each ma	Toronto	W. K. Corwin, Hartford
Ass'n of Canada	ad Sat. each mo.	Muscatine	Whi. Tennant, Toronto S. E. Houk, Muscatine J. H. Taylor, Henrietta, N.Y. Peter F. Bahnsen, Americu
Genesee Valley V. M. Ass'n		Rochester	J. H. Taylor, Henrietta, N.Y
Georgia State V. M. A		Albany	W. H. Kelly, Albany
Idaho Vet. Med. Assn	January, 1928	Boise	J. D. Adams, Boise
Illmo Vet. Med. Ass'n	December 1993	Collinsville, Ill.	J. D. Adams, Boise L.B.Michael, Collinsville, III L. A. Merillat, Chicago J. L. Axby, Lawrenceburg P. L. Ellis, Merrill, Iowa
Indiana Veterinary Ass'n	December, 1929.	Chicago	J. L. Axby, Lawrenceburg
		Sioux City	P. L. Ellis, Merrill, Iowa
lowa Veterinary Ass'n	January 10-18	Des moines	H. D. Bergman, Ames I. J. Person, Lawrence
Kentucky V. M. Ass'n	Feb. 7, 8	Louisville	J. A. Winkler, Newport P. R. Baird, Waterville
Interstate V. M. A. Iowa Veterinary Ass'n. Kansas State V. M. Ass'n. Kentucky V. M. Ass'n. Maine Vet. Med. Ass'n. Md. Vet. Med. Assn.	Tan 18 10	Baltimore	P. R. Baird, Waterville Hulbert Young, Baltimore
Massachusetts Vet. Ass'n	Monthly	American House	
		Boston	Harrie W. Peirce, W. Med'd
Michigan-Ohio V. M. A Michigan State V. M. Ass'n	***********	Adrian	W. E. Watson, Metamora, O. R. A. Runnells, R. Langing
Minnesota State V. M. Ass'n	January 10-11	Minneapolis	
Mississippi State V. M. Ass'n	Feb. 18-15	Clarksdale St. Joseph, Mo	R.F.Bourne, Ft.Collins, Colo
Missouri Vet. Med. Ass'n	************		Chas. D. Folse, Kansas City
Michigan-Ohio V. M. A Michigan State V. M. Ass'n Minnesota State V. M. Ass'n Mississippi State V. M. Ass'n Missouri Valley V. Ass'n Montana State V. M. A Nat'l Ass'n B. A. I. Veteringrians	Meet with A V	Helena	H. Marsh, Helena
narians	_ M. A		L. E. Day, Chicago
narians Neb. Vet. Med. Ass'n	Dec. 12, 18	Lineoln	L. E. Day, Chicago C. J. Norden, Lincoln
New York S. V. M. Society	***********		C. E. Hayden, Ithaca
Nevada State Vet. Ass'n New York S. V. M. Society North Carolina V. M. Ass'n North Dakota V. M. Ass'n Northwestern Ohio V. M. A		******	J. P. Spoon, Burlington
Northwestern Ohio V. M. A			C. E. Hershey, Tiffin, Ohio
Ohio State V. M. Ass'n Ohio Tri-County Vet. Ass'n	*******	Columbus	J. P. Spoon, Burlington R. S. Amadon, Fargo C. E. Hershey, Tiffin, Ohic F. A. Lambert, Columbus, O. W. R. Lukens, Hillsboro
Ohio Tri-County Vet. Ass'n Ohio Valley Vet. Med. Ass'n	******		
Oklahama State V M Ass'n		Okla. City	H. Wood Ayers, Okla. City
Ontarfo Vet. Ass'n	2d Tu each mo	Toronto	J. S. Glover, Toronto
Ortarfo Vet. Ass'n Ortarfo Vet. Ass'n Orleans Parish V. M. A Oregon Vet. Med. Ass'n	1st Tu. each mo.	New Orleans	W. J. Ratigan, New Orleans
Oregon Vet. Med. Ass'n	*******	***************************************	H. Wood Ayers, Okla. City J. S. Glover, Toronto Hal C. Simpson, Pomona W. J. Ratigan, New Orleans B. T. Simms, Corvallis, Ore
Pennsylvania State V. M. A Philadelphia Veterinary Club	4th Tu. ea. mo.		C. S. Rockwell, 5128 Chest-
			nut St., Philadelphia
Philippine Vet. Med. Ass'n Portland Vet. Med. Ass'n San Joaquin V. M. A	4th Tu. ea. mo.	Portland, Ore	A. K. Gomez, Manila Sam B. Foster, Portland, Ore.
San Joaquin V. M. A S. Carolina Ass'n of Veter'ns	1st Wed. mo		A. R. Anderson, Hanford
Schuylkill Valley V. M. A	*********	Reading	M. R. Binckstock, Spart'b's C. R. Potteiger, Reading
South Dakota V. M. A			W. F. Joseph, Iroquois
So. Calif. V. M. A	3d Wednesday. Monthly	Los Angeles	J. P. Bushong, Los Angeles
Southeastern Mich. V. M. Ass'n			
Southeastern States V. M. A Southern Tier V. M. A	November 21-22.	Chattanooga Binghamton	H. Preston Hoskins, Detroit J. I. Handley, Atlanta R. R. Birch, Ithaca, N. Y.

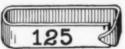
Southwestern Mich. V. M. A. Tennessee Vet. Med. Ass'n. Texas State V. M. A. June each year. Oct. each year. Vermont Vet. Med. Ass'n. July and Dec. Vet. Ass'n of Alberta. Vet. Ass'n of Manitoba. Vet. Med. Ass'n of N. J. January 10-11. July and Dec. Vet. Med. Ass'n of N. J. January 11. Trenton. Trenton. J. B. Still, Winnipeg Vet. Med. Ass'n, New York City. Ist Wed. ea. mo. Virginia State V. M. Ass'n. Virginia Virginia State V. M.	Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y.
Tennessee Vet. Med. Ass'n. Texas State V. M. A. June each year. Fort Worth W. R. McCuistion, Ft. Worth M. J. Geiger, Croswell, Micl Wet. Med. Ass'n. Oct. each year. Salt Lake City. Sal	Southwestern Mich. V. M. A	***********	************	L.A. Winter, Eau Claire, Mich
Texas State V. M. A	Tennessee Vet. Med. Ass'n		***********	C. E. Kord, Nashville
Utah Vet. Med. Ass'n	Texas State V. M. A	June each year.	Fort Worth	W. R. McCuistion, Ft. Worth
Utah Vet. Med. Ass'n	Thumb Vet. Med. Ass'n			M. J. Geiger, Croswell, Mich.
Vermont Vet. Med. Ass'n. January 10-11. Vet. Ass'n of Alberta. July and Dec. Vet. Club Dist, of Columbia. Vet. Ass'n of Manitoba. Vet. Med. Ass'n of N. J. Vet. Med. Ass'n of N. J. Virginia State V. M. Ass'n. Washington State Col. V. M. A. Washington State V. M. A. Western N. Y. V. M. A. Western Pa. Vet. Club. 3d Tu. each mo. Vet. Med. Ass'n. Virginia State V. M. A. Virginia State V. M. A			Salt Lake City.	E. A. Bundy, Ogden
Vet. Ass'n of Alberta July and Dec. T. E. Leclaire, Calgary, Altz Vet. Club Dist, of Columbia. F.W. Grenfell, Wash'n, D. C. Vet. Ass'n of Manitoba. J. B. Still, Winnipeg Vet. Med. Ass'n of N. J. January 11. Trenton P. B. Silvester, Princeton J. E. Crawford, Far Rock Ass'n, New York City. Jan. 11, 12. Richmond W. G. Chrisman, Blacksbur Washington State V. M. A. 1st, 3d Fri. eve. Washington State V. M. A. F. F. Fehr, Buffalo Western Pa. Vet. Club. State V. M. A. F. Fren, Buffalo Fred Wietzel, Pittsburgh	Vermont Vet. Med. Ass'n	January 10-11	St. Johnsbury	Geo. Thomas, Bradford
Vet. Ass'n of Manitoba. Vet. Ass'n of Manitoba. Vet. Med. Ass'n of N. J. January 11. Vet. Med. Ass'n of N. J. January 11. Vet. Med. Ass'n, New York City. Ist Wed. ea. mo. Virginia State V. M. Ass'n. Virginia State V. M. A. Virginia State	Vet. Ass'n of Alberta	July and Dec		T. E. Leclaire, Calgary, Alta.
Vet. Ass'n of Manitoba Vet. Med. Ass'n of N. J January 11 Ist Wed. ea. mo. Virginia State V. M. Ass'n. Virginia State V. M. Ass'n. Washington State Col. V. M. A. Western N. Y. V. M. A. Western Pa. Vet. Club Still, Winnipeg P. B. Silvester, Princeton J. E. Crawford, Far Rocl away, N. Y. Richmond Richmond S. Worley, Col. Station Carl Cozier, Bellingham F. F. Fehr, Buffalo Western Pa. Vet. Club Still, Winnipeg P. B. Silvester, Princeton P. B. Silvester, Princeton P. B. Silvester, Princeton Carwy, N. Y. W. G. Chrisman, Blacksbur Carl Cozier, Bellingham F. F. Fehr, Buffalo Pittsburgh Fred Wietzel, Pittsburgh	Vet. Club Dist. of Columbia			F.W.Grenfell, Wash'n, D. C.
Vet. Med. Ass'n of N. J January 11 Trenton P. B. Silvester, Princeton V. M. Ass'n, New York City 1st Wed. ea. mo. Virginia State V. M. Ass'n. Jan. 11, 12 1st, 3d Fri. eve. Washington State Col. V. M. A. 1st, 3d Fri. eve. Washington State V. M. A. Western N. Y. V. M. A. Western N. Y. V. M. A. Western N. Y. V. M. A. Western Pa. Vet. Club 3d Tu. each mo. Pittsburgh Fred Wietzel, Princeton Passer, Princeton Passer				
V. M. Ass'n, New York City 1st Wed. ea, mo. Wirginia State V. M. Ass'n Jan. 11, 12 Richmond W. G. Chrisman, Blacksbur Washington State V. M. A. 1st, 3d Fri. eve. Washington State V. M. A. 1st, 3d Fri. eve. Western N. Y. V. M. A. 1st, 3d Tu, each mo. Pittsburgh Frehr, Buffalo Western Pa. Vet. Club 3d Tu, each mo. Pittsburgh Fred Wietzel, Pittsburgh	Vet. Med. Ass'n of N. J.	January 11	Trenton	P. B. Silvester, Princeton
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Virginia State V. M. Ass'n Jan. 11, 12 Richmond W. G. Chrisman, Blacksbur Washington State Col. V. M. A. 1st, 3d Fri. eve. Pullman S. Worley, Col. Station Washington State V. M. A. Carl Cozier, Bellingham Western N. Y. V. M. A. F. F. Fehr, Buffalo Western Pa. Vet. Club 3d Tu. each mo. Pittsburgh Fred Wietzel, Pittsburgh	The same and them a dead colors			
Washington State Col. V. M. A. 1st, 3d Fri. eve. Pullman	Virginia State V. M. Ass'n	Jan. 11. 12	Richmond	
Washington State V. M. A. Carl Cozier, Bellingham Western N. Y. V. M. A. F. F. Fehr, Buffalo Western Pa. Vet. Club. 3d Tu. each mo. Pittsburgh Fred Wietzel, Pittsburgh	Washington State Col V M A	1st 2d Fri ave	Pullman	S Worley Col. Station
Western N. Y. V. M. A	Washington State V M A	150, 00 771. 010.	t diminut	Carl Cozier Rellingham
Western Pa. Vet. Club 3d Tu. each mo. Pittsburgh Fred Wietzel, Pittsburgh				
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W Virginia Vet Med Acc'n July annually Cranwell Fairmont	W Virginia Vet Med Acc'n	July annually	rateourgh	I I Cranwell Fairmont
W. Virginia Vet. Med. Ass'n July, annually J. J. Cranwell, Fairmont Wisconsin Vet. Med. Ass'n	Wisconsin Vet Med Ace'n	July, amuany.		O F Fligson Madison
York Co. (Pa.) V. M. A	Vork Co (Po) V M A	***********	Vork	P C Bangticker Vork Pa

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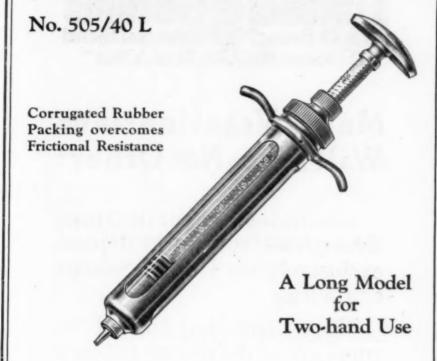
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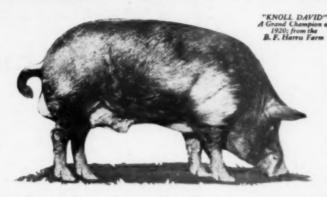


*This series of advertisements is a part of our educational campaign to bring about more general use of proper hog cholera immunization, which means more calls for the veterinarian.

Are you making this campaign work for you? If you're not, write to us for our complete plan for getting, more business for you.

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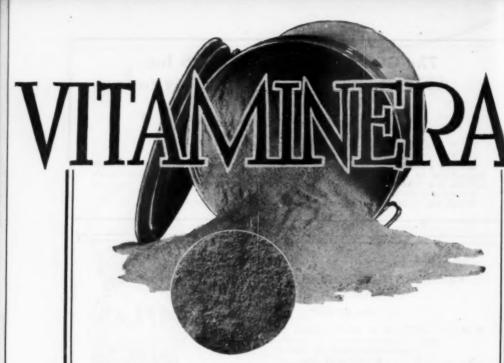
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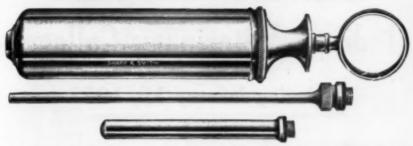
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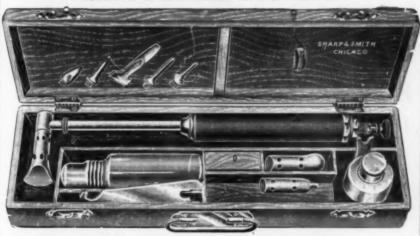


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- Serum.—For immediate protection of exposed animals, to confer passive immunity.

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—AS YOU WILL SEE FROM
HIS STATEMENT
IN THE PITMAN-MOORE
AD REPRODUCED ON
THE FOLLOWING PAGE

PITMAN-MOORE COMPANY

Pharmaceutical and Biological Chemists
Indianapolis U. S. A.

What Indiana's **Farmer Governor** Thinks About Hog-Cholera Vaccination



Moorefield, Inc.

Warren T. McCray, Governor of Indiana. owner of Orchard Lake Stock Farm

ORCHARD LAKE STOOK FARM HEREFORDS KERTLAND INDIANA

APT11 1, 1922.

Jones HE CORE MIR

I do not believe it is good to business for farmers in the corn belt to business for farmers, for market or for attempt to raise hogs, for to it that they breeding, without seeing to be breeding, without seeing to general against hog-cholers. TO WHOM IT MAY CONCERN:

It is my opinion that vaccinaion by the simultaneous method, if
tion by the simultaneous method, if
administered by a competent veterinarian,
administered by a competent veterinarian,
is the safest and in fact the only way to
secure this protection.

My herds are all immune, and my reterinarian is instructed to keep them my reterinarian is instructed serum from so. In doing this I have used serum from the Pitman-Moore Laboratories with exceltant results.

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VETERINARY ASSOCIATIONS

Secretaries of Veterinary Associations are requested to cooperate with us in keeping this directory up to date.

Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y
Alabama Vet. Med. Ass'n Alumni Ass'n College of Vet. Med. O. S. U		Auburn	C. A. Cary, Auburn
Med. O. S. U		Columbus	James B. Grossman, care O S. U., Columbus, Ohio
Alumni Ass'n N. YA. V. C American Vet. Med. Ass'n	Sept., Dec., Mar.	388 E. 26th St	Adolph Eichhorn, Pear
American Vet. Med. Ass'n Arkansas Veterinary Ass'n B, A. I. Vet. In. A., S. Omaha		Montreal	H. Preston Hoskins, Detroit
B. A. I. Vet. In. A., S. Omaha. B. A. I. Vet. Ass'n, Metro Div.	ad Mon.each mo.	S. Omaha, Neb.	J. V. Giffee, So. Side, Omaha B. L. Sander, New York City
B. A. I. Vet. Ass'n, Kans. City Unit	On Call	Fed'l Bldg	Jos. W. Parker, Kansas
British Columbia Vet. Ass'n			h. Chester, New Westmin
California State V. M. Ass'n	June 4	San Francisco	ster, B. C. J. P. Bushong, Los Angeles
Central Mich V. M. A.	***********	Jackson.	W. N. Armstrong Concord
Central N. Y. Vet. Med. Ass'n.	June and Nov.	Syracuse	W. B. Switzer, Oswego
Chicago Vet. Society	2d Tu. each mo.	Chicago	J. Jaffray, Chicago
Colorado State V. M. Ass'n	June 1-3	Ft. Collins	I. E. Newsom, Ft. Collins
Connecticut V M Ass'n	ad Inur.each mo	Hartford	G E Corwin Harriard
California State V. M. Ass'n Central Canada V. Ass'n Central Mich. V. M. A Central N. Y. Vet. Med. Ass'n Chicago Vet. Society Colorado State V. M. Ass'n Conestoga Veterinary Club Connecticut V. M. Ass'n Dallas-Ft. Worth V. M. S	1st Thur. mo	**********	W. R. McCuistion, Ft.
Dominion Vet. Meat Inspectors'			
Ass'n of Canada Eastern Iowa Vet. Ass'n	3d Sat. each mo.	Toronto	Wm. Tennant, Toronto
Eastern Iowa Vet. Ass'n		Muscatine	S. E. Houk, Muscatine
Genesee Valley V. M. Ass'n	***********	Rochester	A. L. Shealy, Gainesville,
Eastern Iowa Vet. Ass'n Fla. State V. M. A Genesee Valley V. M. Ass'n Georgia State V. M. A		Albany	Peter F. Bahnsen, Americus
Hudson Valley V. M. A			W. H. Kelly, Albany
Idaho Vet. Med. Assn	January, 1923	Collingville III	J. H. Taylor, Henrietta, N.Y. Peter F. Bahnsen, Americus W. H. Kelly, Albany J. D. Adams, Boise L.B.Michael, Collinsville, Ill.
Hudson Valley V. M. A Idaho Vet. Med. Assn Illmo Vet. Med. Ass'n Illinois State V. M. Ass'n	December, 1923	Chicago	L. A. Merillat Chicago
Indiana Veterinary Ass'n Interstate V. M. A		*******	L. A. Merilint, Chicago J. L. Axby, Lawrenceburg
Interstate V. M. A	March and Oct.		
Iowa Veterinary Ass'n	January 10-18	Des Moines	H. D. Bergman, Ames
Interstate V. M. Ass'n Kansas State V. M. Ass'n Kentucky V. M. Ass'n Maine Vet. Med. Ass'n Md. Vet. Med. Assn	Feb. 7, 8	Louisville	H. D. Bergman, Ames I. J. Person, Lawrence J. A. Winkler, Newport P. R. Baird, Waterville
Maine Vet. Med. Ass'n		Bangor	P. R. Baird, Waterville
Massachusetts Vet. Ass'n	Jan. 18, 19	American House	Hulbert Young, Baltimore
			Harrie W. Peirce, W. Med'd
Michigan-Ohio V. M. A		Adrian	W. E. Watson, Metamora, O. R. A. Runnells, E. Lansing C. P. Fitch, St. Paul
Michigan State V. M. Ass'n	Innuary 10-11	East Lansing	R. A. Runnells, E. Lansing
Mississippi State V. M. Ass'n.	Jan. 8-9, 1923	Clarksdale	H. L. Fry, Jackson
Missouri Valley V. Ass'n	Feb. 18-15	St. Joseph, Mo	R.F.Bourne, Ft.Collins, Colo.
Missouri Vet. Med. Ass'n	***********	Holono	Chas. D. Folse, Kansas City H. Marsh, Helena
Michigan-Ohio V. M. A Michigan State V. M. Ass'n Minnesota State V. M. Ass'n Mississippi State V. M. Ass'n Missouri Valley V. Ass'n Missouri Vet. Med. Ass'n Montana State V. M. A Nat'l Ass'n B. A. I. Veterinarians Neb. Vet. Med. Ass'n Neb. Vet. Med. Ass'n	Meet with A V.	ricicia	
narians	M. A	Lincoln	L. E. Day, Chicago C. J. Norden, Lincoln
Neb. Vet. Med. Ass n. Nevada State Vet. Ass'n New York S. V. M. Society North Carolina V. M. Ass'n. North Dakota V. M. Ass'n. Northwestern Ohio V. M. A. Dhio State V. M. Ass'n.		Reno	Stephen Lockett, Reno
New York S. V. M. Society	*********		C. E. Hayden, Ithaca
North Carolina V. M. Ass'n.		***********	J. P. Spoon, Burlington
Northwestern Ohio V. M. A		*************	C. E. Hershey, Tiffin, Ohio
Ohio State V. M. Ass'n		Columbus	F. A. Lambert, Columbus, O.
Ohio Tri-County Vet. Ass'n	************	***********	W. R. Lukens, Hillsboro
Dhio Valley Vet. Med. Ass'n. Diklahoma State V. M. Ass'n. Ditario Vet. Ass'n. Drange Belt V. M. A.		Okla. City	H. Wood Avers, Okla, City
Ontario Vet. Ass'n		Toronto	J. S. Glover, Toronto
Orange Belt V. M. A	2d Tu. each mo.	Nam Orleans	Hal C. Simpson, Pomona
Orleans Parish V. M. A Oregon Vet. Med. Ass'n	ist Tu. each mo.	New Orleans	W. J. Ratigan, New Orleans B. T. Simpson, Corvallis, Ore. R.M. Staley, P. O. 1404, Phila.
Pennsylvania State V. M. A		Harrisburg	R.M. Staley, P. O. 1404, Phila.
Philadelphia Veterinary Club.	4th Tu. ea. mo.	Philadelphia	C. S. MUCAWEII, 2120 CHEST-
Philippine Vet. Med. Ass'p			nut St., Philadelphia
Philippine Vet. Med. Ass'n Portland Vet. Med. Ass'n San Joaquin V. M. A Carolina Ass'n of Veter'ns	4th Tu. ea. mo.	Portland, Ore	A. K. Gomes, Manila Sam B. Foster, Portland, Ore.
an Joaquin V. M. A	1st Wed. mo		A. R. Anderson, Hanford
churchill Veller V V A	********	Reading	A. R. Anderson, Hanford M. R. Blackstock, Spart'b'g C. R. Potteiger, Reading
South Dakota V. M. A	,	reading	W. F. Joseph, Iroquois
	3d Wednesday.		
	Monthly	Los Angeles	J. P. Bushong, Los Angeles

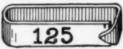
Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y.
Southeastern States V. M. A. Southern Tier V. M. A. Southwestern Mich. V. M. A. Tennessee Vet. Med. Ass'n. Texas State V. M. A. Thumb Vet. Med. Ass'n. Utah Vet. Med. Ass'n. Vermont Vet. Med. Ass'n. Vet. Ass'n of Alberta. Vet. Club Dist. of Columbia. Vet. Ass'n of Manitoba. Vet. Med. Ass'n of N. J. Vet. Med. Ass'n of N. J. Vet. Med. Ass'n, New York City.	June each year. Oct. each year. January 10-11 July and Dec. January 11	Fort Worth Salt Lake City. St. Johnsbury. Trenton.	R. R. Birch, Ithaca, N. Y. L.A.Winter, Eau Claire, Mich C. E. Kord, Nashville W. R. McCuistion, Ft. Worth M. J. Geiger, Croswell, Mich. E. A. Bundy, Ogden Geo. Thomas, Bradford T. E. Leclaire, Calgary, Alta. F.W. Grenfell, Wash'n, D. C. J. B. Still, Winnipeg P. B. Silvester, Princeton J. E. Crawford, Far Rock-
Virginia State V. M. Ass'n Washington State Col. V. M. A. Washington State V. M. A Western N. Y. V. M. A Western Pa. Vet. Club. W. Virginia Vet. Med. Ass'n Wisconsin Vet. Med. Ass'n York Co. (Pa.) V. M. A Southeastern Mich. V. M. Ass'n	3d Tu. each mo. July, annually. 2d Wednesday	Pullman Pittsburgh York	S. Worley, Col. Station Carl Coxier, Bellingham F. F. Fehr, Buffalo Fred Wietzel, Pittsburgh J. J. Cranwell, Fairmont O. E. Eliason, Madison

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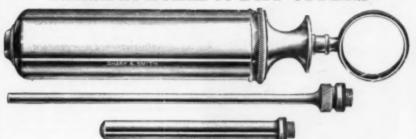
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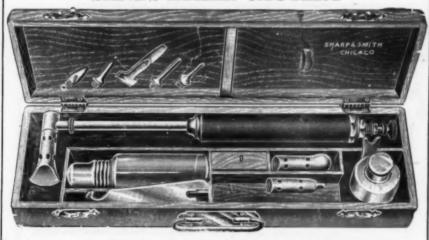


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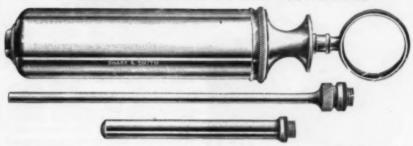
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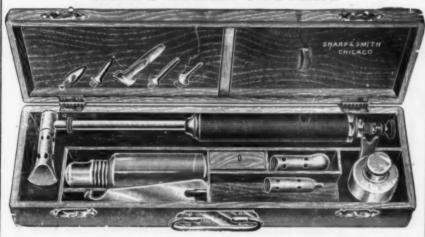


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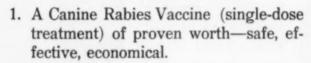
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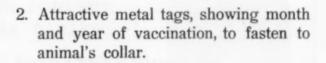


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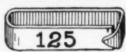
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Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y
Alabama Vet. Med. Ass'n	***********	Auburn	C. A. Cary, Auburn
Med. O. S. U	••••••	Columbus	
Alumni Ass'n N. YA. V. C	Sept., Dec., Mar.	388 E. 26th St.	S. U., Columbus, Ohio Adolph Eichhorn, Pear River, N. Y.
American Vet. Med. Ass'n		Montreal	H. Preston Hoskins, Detroit
American Vet. Med. Ass'n Arkansas Veterinary Ass'n B. A. I. Vet. In. A., S. Omaha B. A. I. Vet. Ass'n, Metro Div. B. A. I. Vet. Ass'n, Kans. City	ad Mon.each mo.	S. Omaha, Neb. 338 E. 26th St.	J. V. Giffee, So. Side, Omah E. L. Sander, New York City
Unit	On Call	Fed'l Bldg	Jos. W. Parker, Kansa
British Columbia Vet. Ass'n		************	City, Kans. K. Chester, New Westmin
California State V. M. Ass'n	June 4	San Francisco	J. P. Bushong, Los Angele
Central Mich. V. M. A		Jackson	W. N. Armstrong, Concord
Chicago Vet. Society	2d Tu. each mo.	Syracuse	W. B. Switzer, Oswego
Colorado State V. M. Ass'n	to the cach mo.	Chicago	L. E. Newsom, Ft. Collins
Connecticut V M Accin	2d Thur.each mo	Lancaster, Pa	H. B. Brady
British Columbia Vet, Ass'n California State V. M. Ass'n Central Canada V. Ass'n Central Mich. V. M. A Central N. Y. Vet, Med. Ass'n. Chicago Vet. Society Colorado State V. M. Ass'n. Consestoga Veterinary Club Connecticut V. M. Ass'n Dallas-Ft. Worth V. M. S	1st Thur. mo	Hartford	W. R. McCuistion, Ft
Common vet. Meat Inspectors		16	
Ass'n of Canada	3d Sat. each mo.	Toronto	Wai. Tennant, Toronto
Fla. State V. M. A	March	Palatka	A. L. Shealy, Gainesville,
Ass'n of Canada Eastern Iowa Vet. Ass'n. Fla. State V. M. A. Genesee Valley V. M. Ass'n. Georgia State V. M. A. Hudson Valley V. M. A. Illimo Vet. Med. Ass'n. Illimois State V. M. Ass'n. Indiana Veterinary Ass'n. Iowa Veterinary Ass'n.		Rochester	J. H. Taylor, Henrietta, N.Y.
Hudson Valley V. M. A		Albany	Peter F. Bahnsen, Americus
daho Vet. Med. Assn	***********	Boise	J. D. Adams, Boise
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nterstate V. M. A	March and Oct.	Sioux City	J. L. Axby, Lawrenceburg P. L. Ellis, Merrill, Iowa H. D. Bergman, Ames I. J. Person, Lawrence J. A. Winkler, Newport
Kansas State V. M. Ass'n		Des Moines	H. D. Bergman, Ames
Kentucky V. M. Ass'n	Feb. 7, 8	Louisville	J. A. Winkler, Newport
Md. Vet. Med. Assn		Bangor	P. R. Baird, Waterville Hulbert Young, Baltimore
nterstate V. M. A. Kansas State V. M. Ass'n Kentucky V. M. Ass'n Maine Vet. Med. Ass'n Md. Vet. Med. Assn Massachusetts Vet. Ass'n	Monthly	American House	Hulbert Toung, Battimore
Michigan-Ohio V. M. A.		Boston	Harrie W. Peirce, W. Med'd
Michigan State V. M. Ass'n	Feb. 6, 7		W. E. Watson, Metamora, O. R. A. Runnells, E. Lansing
Minnesota State V. M. Ass'n		Minneapolis	C. P. Fitch, St. Paul
Missouri Valley V. Ass'n	Feb. 13-15	St. Joseph. Mo.	C. P. Fitch, St. Paul H. L. Fry, Jackson R.F.Bourne, Ft.Collins, Colo.
Missouri Vet. Med. Ass'n	************	************	Chas. D. Folse, Kansas City
Michigan-Ohio V. M. A	Meet with A V.	Helena	H. Marsh, Helena
narians	M. A		L. E. Day, Chicago
Nevada State Vet. Ass'n	******	Lincoln	C. J. Norden, Lincoln Stephen Lockett, Reno
New York S. V. M. Society		Reno	C. E. Hayden, Ithaca
narians Neb. Vet. Med. Ass'n Nevada State Vet. Ass'n New York S. V. M. Society North Carolina V. M. Ass'n. North Dakota V. M. Ass'n. Northwestern Ohio V. M. A. Dhio State V. M. Ass'n Dhio Tri-County Vet. Ass'n Dhio Valley Vet. Med. Ass'n Dkio Mass'n Dkio Tri-County Vet. Ass'n Dkio Tri-County Vet. Ass'n	******		C. E. Hayden, Ithaca J. P. Spoon, Burlington
Northwestern Ohio V. M. A			R. S. Amadon, Fargo
Ohio State V. M. Ass'n		Columbus	F. A. Lambert, Columbus, O.
Thio Valley Vet. Med. Ass'n	************	***********	R. S. Amadon, Pargo C. E. Hershey, Tiffin, Ohio F. A. Lambert, Columbus, O. W. R. Lukens, Hillsboro C. S. Henry, Terre Haute H. Wood Ayers, Okla. City J. S. Glover, Toronto
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hilippine Vet. Med. Ass'n			nut St., Philadelphia A. K. Gomes, Manila
ortland Vet. Med. Ass'n	th Tu. ea. mo.	Portland, Ore	sam B. Foster, Portland, Ore.
Carolina Ass'n of Veter'ns.	lst Wed. mo	*************	A. R. Anderson, Hanford
	************	Reading	M. R. Blackstock, Spart'b'g C. R. Potteiger, Reading W. F. Joseph, Iroquois
o. Calif. V. M. A	d Wednesday.	************	W. F. Joseph, Iroquois
	Conthly	Los Angoles	J. P. Bushong, Los Angeles

Name of Organization	Date of Next Meeting	Place of Meeting	Name and Address of Sec'y.
Southeastern States V. M. A Southern Tier V. M. A Southwestern Mich. V. M. A		Binghamton	J. I. Handley, Atlanta R. R. Birch, Ithaca, N. Y. L.A.Winter, Eau Claire, Mich
Tennessee Vet. Med. Ass'n	***********		C. E. Kord, Nashville
Texas State V. M. A			W. R. McCuistion, Ft. Worth
Thumb Vet. Med. Ass'n		Calt Laka City	M. J. Geiger, Croswell, Mich. E. A. Bundy, Ogden
Utah Vet. Med. Ass'n Vermont Vet. Med. Ass'n		St Johnshury	Geo. Thomas, Bradford
Vet. Ass'n of Alberta			
Vet. Club Dist. of Columbia	outy and Dec.		P.W. Granfell Wash'n D. C.
Vet. Ass'n of Manitoba			
Vet. Med. Ass'n of N. J			
V. M. Ass'n, New York City			J. E. Crawford, Far Rock-
		n:	away, N. Y.
Virginia State V. M. Ass'n		Richmond	W. G. Chrisman, Blacksburg
Washington State Col. V. M. A.			
Washington State V. M. A	,		Carl Cozier, Bellingham
Western N. Y. V. M. A Western Pa. Vet. Club	td Tu euch mo	Dittohureh	F. F. Fenr, Bunalo
W. Virginia Vet. Med. Ass'n	July annually	rittsburgh	I I Cranwell Fairmont
Wisconsin Vet. Med. Ass'n	odiy, amidany.		O F Fliggon Madigon
York Co. (Pa.) V. M. A		York	E. S. Bausticker, York, Pa.
Southeastern Mich. V. M. Ass'n	2d Wednesday		II. D. Dadoucker, 10th 1
			H. Preston Hoskins, Detroit

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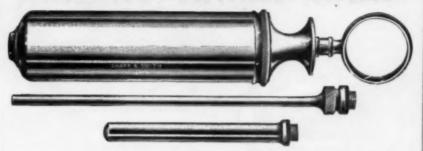
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Dr. W. J. Lentz, of the University of Pennsylvania, addressed the December meeting of the Western Pennsylvania Veterinary Club, on the subject of small animal diseases. In January, Dr. Lentz addressed the New York City Veterinary Medical Association, and later in the same month was on the program of the annual meeting of the New Jersey State Veterinary Medical Association. At the latter meeting his topic was "Canine Distemper"

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Baltimore Sun.

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SECRETARIES of local, county, state and provincial veterinary associations to send in the **date** and **place** of the **next meeting**, as soon as definitely fixed.

SECRETARIES of state veterinary examining boards to send in the **date** and **place** for holding the **next examination**, as soon as definitely fixed.

MEMBERS of the Association to send in the names of Veterinarians worthy of membership in the A. V. M. A., so that we may get in touch with prospective members through our Resident State and Provincial Secretaries.

PRACTITIONERS to send in **case reports** and short articles on practical subjects of interest to practitioners.

NAMES of members who are planning to attend the **meeting in Montreal** next August, (a) by rail and (b) by auto.

American Veterinary Medical Association
H. PRESTON HOSKINS, Secretary-Editor
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Every veterinarian in the country, whether he supports the American Veterinary Medical Association or not, enjoys the fruits of past and present efforts put forth by the Association, through its officers and committees.

Our Association is now the largest veterinary organization in the world. There is no particular benefit to be derived from this fact alone, unless every member feels that he is a part of the Association and is willing to shoulder a little of the responsibility that goes with being a member.

Members should not feel that their obligation stops when they send in a remittance each year for their dues. This is only a very small part of their obligation.

For example, take the obligation each member owes our Journal, of contributing something to its pages occasionally. On the average, only about one member in fifty ever contributes anything for publication in our Journal.

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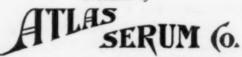
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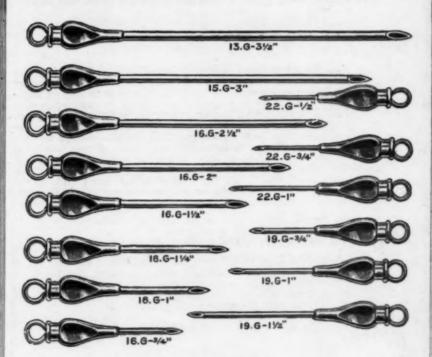
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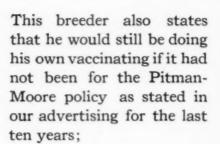


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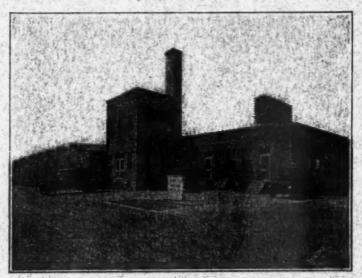
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